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ENVIROCON, INC.

January 15, 1993
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Attention: Mr. John Wadhams

Subject: Fourth Quarter 1992 Soil Vapor Extraction Report, Livingston Rail Yard

Dear John:

This vapor extraction report addresses Livingston Rail Yard soil vapor extraction (SVE) activities and results for the October, November, and December 1992 sampling events. Included with this report are all laboratory air sample results for this reporting period and tables totalling the mass of recovered volatile organic compounds (VOCs) since the systems began operating.

Envirocon operated four SVE systems during this reporting period. These systems are located at the Electric Shop, the transfer-pit manways, the Locomotive Shop, and the in-line grit chamber.

The Waste Water Treatment Plant (WWTP) sump SVE system was removed in August during the sludge removal action. SVE was not operated at the WWTP compound or at the cinder pile during the fourth quarter of 1992, because of very low VOC recovery rates making activated-carbon usage very inefficient. The in-line grit chamber SVE system was shut off on November 25 due to freezing of the carbon units. The Locomotive Shop SVE system was shut off on December 14 due to freezing of the carbon units. Both the Electric Shop and the transfer-pit manways SVE systems were shut off on December 20 because freezing problems were expected during the holiday period. Because no systems were operated continuously throughout December, no air samples were collected in December.

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Table 1.0 summarizes air sample results for samples collected during this reporting period. The values shown represent total volatile organic responses. The concentrations of individual VOCs detected in the influent and effluent samples are shown on the laboratory results compiled in Appendix A. Copies of the field logs for photoionization-detector readings are included in Appendix B.

Tables 2.0 through 8.0 summarize VOC recovery at each SVE system since it began operating. VOC recovery for this reporting period is shown in bold on each table. Recovery is calculated by multiplying the vapor stream concentration from the sample results by the air flow rate measured at each system and then by the number of days of operation per period of calculation. Each period of calculation correlates to one vapor-stream sample result. One thousand seven hundred and seventy-eight pounds of EPA Method 524.2 VOCs and 1,063 pounds of total VOCs not specifically identified by EPA Method 524.2 have been recovered since the beginning of SVE operation through this reporting period. Energy Laboratories, Inc. has indicated that the VOCs not specifically identified by Method 524.2 are C-9 to C-12 branch-chain hydrocarbons.

Eight SVE wells were installed at the locations shown on Figure 1.0 during the fourth quarter of 1992. These wells were installed to investigate areas where low levels of VOC contamination in the soil are possible but extensive contamination is unlikely. The well logs for these new wells are included in Appendix C. As described in a letter from Envirocon to the MDHES dated October 22, SVE tests will be run at each new well to determine if soil contamination exists and if SVE is feasible.

Soil samples were collected during installation where drilling and aeration did not preclude representative sampling. Soil samples were collected during the installation of Wells VE-39, VE-44, VE-45, and VE-47. The results of these samples are included in Appendix D. Representative soil samples could not be collected during installation of Wells VE-40, VE-41, VE-42, VE-43, and VE-46.

During the fourth quarter of 1992, SVE tests were run at Well VE-39 and VE-42. The results of soil samples (140101-SO-406 and 140101-SO-407) from Well VE-39 and the air sample collected during the SVE test (140101-SG-249) indicate some chlorinated VOCs are present in the soil at the Waste Oil Recycling Plant. Therefore, an SVE system will be constructed at this location. Based on the 22.8 ug/m³ chlorinated-ethene concentrations detected during the SVE test, chlorinated-ethene

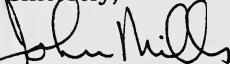
Mr. John Wadhams
January 15, 1993
Page Three

recovery from this system should be approximately 0.25 pounds per day, using a 4.5-horsepower blower. SVE tests will be run at the remainder of the new wells during early 1993.

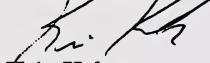
The sample collected during the SVE test at Well VE-42 contained only 4.9 ug/m³ of tetrachloroethene (PCE). This indicates that very little, if any, chlorinated-VOC contamination exists at this location. The small amount detected in the SVE test may have been drawn from VOC contamination at the nearby transfer-pit manways.

Presently, all of the SVE systems are shut off because of the difficulty in using activated carbon filters during very cold weather. On November 9, 1992, Burlington Northern Railroad requested permission to operate SVE systems without activated carbon if they recover less than one pound of VOCs per day per system. To-date, no response has been received from the MDHES. Please contact me at your earliest convenience with a response to the request concerning carbon usage and/or with any questions or comments about this report.

Sincerely,



John Mills
Livingston Office Manager


Kris Kok

Project Manager

JPM/pm

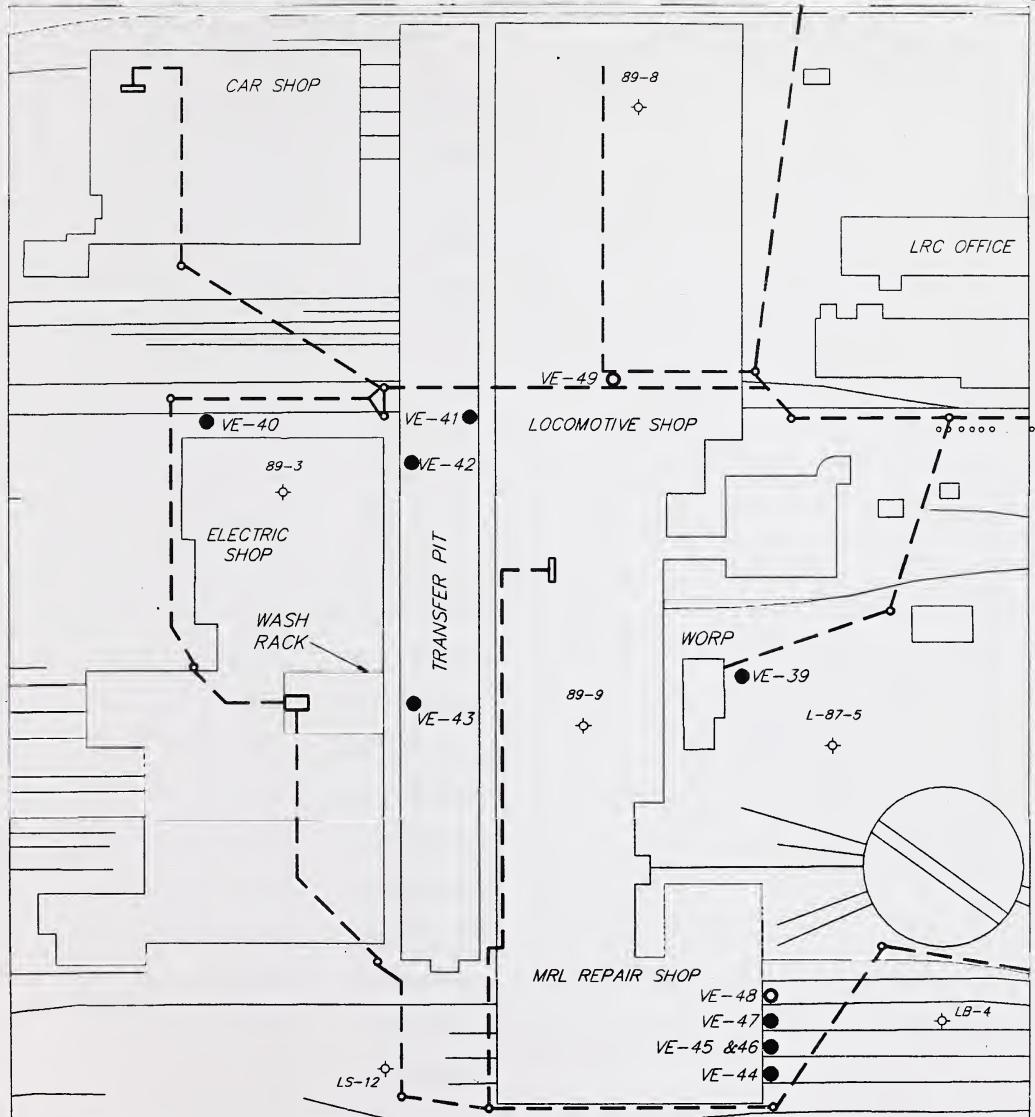
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cc: Mel Burda
Steve Pilcher
Bob Robinson
Dick Peterson
Joe Michaletz



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SYMBOL LEGEND

- SOIL BORING (COMPLETED)
- SOIL BORING (TO BE DRILLED IN 1993)
- DRAIN LINE
- ◊ EXISTING WELL
- MAN WAY

0 125
SCALE IN FEET



BURLINGTON NORTHERN

FOURTH QUARTER 1992
SVE REPORT

SOIL VAPOR EXTRACTION
BORING LOCATIONS

ENVIROCON, INC.

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1/5/93

FIGURE 1.0

TABLE 1.0

SVE SAMPLE RESULTS

Sample Number	Sample Date	SVE System	Total VOC Response (mg/m3)		
			Influent to Carbon Units	Between Carbon Units	Discharge to Atmosphere
140101-SG-224	10/1/92	Transfer-Pit Manways	145		
140101-SG-225	10/15/92	In-Line Grit Chamber			<30
140101-SG-226	10/15/92	In-Line Grit Chamber		55	
140101-SG-227	10/15/92	In-Line Grit Chamber	253		
140101-SG-228	10/15/92	Locomotive Shop			<30
140101-SG-229	10/15/92	Locomotive Shop		<30	
140101-SG-230	10/15/92	Locomotive Shop	35		
140101-SG-231	10/15/92	Electric Shop			<30
140101-SG-232	10/15/92	Electric Shop		<30	
140101-SG-233	10/15/92	Electric Shop	59		
140101-SG-234	10/15/92	Transfer-Pit Manways			<30
140101-SG-235	10/15/92	Transfer-Pit Manways		<30	
140101-SG-236	10/15/92	Transfer-Pit Manways	36		
140101-SG-237	11/22/92	In-Line Grit Chamber			<30
140101-SG-238	11/22/92	In-Line Grit Chamber		<30	
140101-SG-239	11/22/92	In-Line Grit Chamber	175		
140101-SG-240	11/22/92	Locomotive Shop			<30
140101-SG-241	11/22/92	Locomotive Shop		<30	
140101-SG-242	11/22/92	Locomotive Shop	34		
140101-SG-243	11/22/92	Electric Shop			<30
140101-SG-244	11/22/92	Electric Shop		<30	
140101-SG-245	11/22/92	Electric Shop	41		
140101-SG-246	11/22/92	Transfer-Pit Manways			<30
140101-SG-247	11/22/92	Transfer-Pit Manways		<30	
140101-SG-248	11/22/92	Transfer-Pit Manways	31		

TABLE 2.0
IN-LINE GRIT CHAMBER SVE RESULTS

Dates	Number of Days	Extraction Risers in Use	Carbon Units in Use	Compounds Recovered	Sample Results (mg/m ³)	Air Velocity (ft/min)	Air Flow Rate (ft ³ /min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
2/26-2/28/92 (2/27)	1.9	VE-4, VE-5 VE-6, Grit Chamber	B,I	Total VOCs	2080	5490	119.7	22.7		43.0
	1.9			CB	800		119.7	8.7	16.6	
	1.9			1,2-DCB	200		119.7	2.2	4.1	
	1.9			1,4-DCB	32.5		119.7	0.4	0.7	
	1.9			1,3-DCB	16.2		119.7	0.2	0.3	
	1.9			2-CT	10.9		119.7	0.1	0.2	
	1.9			PCE	5.1		119.7	0.1	0.1	
	1.9			Xylenes	4.5		119.7	0.0	0.1	
	1.9			cis-DCE	4.4		119.7	0.0	0.1	
2/29-3/2/92 (3/1)	1.9			1,2,4-TMB	3.4		119.7	0.0	0.1	
	2	VE-6, Grit Chamber	B,I	Total VOCs	1360	5670	123.6	15.3		30.6
	2			CB	710		123.6	8.0	16.0	
	2			1,2-DCB	234		123.6	2.6	5.3	
	2			1,4-DCB	33		123.6	0.4	0.7	
	2			1,3-DCB	11		123.6	0.1	0.2	
	2			2-CT	12		123.6	0.1	0.3	
	2			PCE	2.5		123.6	0.0	0.1	
	2			1,2,4-TMB	2.5		123.6	0.0	0.1	
3/2-3/20/92 (3/6)	17.8	VE-6, Grit Chamber	I,L	Total VOCs	2800	5340	116.4	29.7		528.0
	17.8			CB	890		116.4	9.4	167.8	
	17.8			1,2-DCB	740		116.4	7.8	139.5	
	17.8			1,4-DCB	150		116.4	1.6	28.3	
	17.8			1,3-DCB	13		116.4	0.1	2.5	
	17.8			2-CT	11		116.4	0.1	2.1	
	17.8			PCE	15		116.4	0.2	2.8	
	17.8			1,2,4-TMB	4.6		116.4	0.0	0.9	
	17.8			Xylenes	3.5		116.4	0.0	0.7	
3/20-3/27/92 (3/20)	7	VE-6, Grit Chamber	I,L	Total VOCs	2443	5630	122.7	27.3		191.0
	7			CB	730		122.7	8.2	57.1	
	7			1,2-DCB	872		122.7	9.7	68.2	
	7			1,4-DCB	140		122.7	1.6	10.9	
	7			1,3-DCB	9.8		122.7	0.1	0.8	
	7			2-CT	12		122.7	0.1	0.9	
	7			PCE	3.4		122.7	0.0	0.3	
	7			1,2,4-TMB	3		122.7	0.0	0.2	
	7	VE-6, Grit Chamber	I,L,B,N	Total VOCs	878	2586	126.7	10.1		70.9
3/27-4/3/92 (4/3)	7			CB	128		126.7	1.5	10.3	
	7			1,2-DCB	280		126.7	3.2	22.6	
	7			1,4-DCB	32		126.7	0.4	2.6	
	7			1,3-DCB	7		126.7	0.1	0.6	
	7			2-CT	10		126.7	0.1	0.8	
	7			PCE	3.4		126.7	0.0	0.3	
	7						126.7			

TABLE 2.0, cont.

IN-LINE GRIT CHAMBER SVE RESULTS

Dates	Number of Days	Extraction Risers in Use	Carbon Units in Use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
4/4-4/25/92 (4/17)	21	VE-6, VE-22	L,N	Total VOCs	580	2466	120.8	6.4	565.2	863.5
	21	Grit Chamber		CB	129		120.8	1.4	29.8	133.9
	21			1,2-DCB	119		120.8	1.3	27.5	
	21			1,4-DCB	21		120.8	0.2	4.8	
	21			1,3-DCB	5.3		120.8	0.1	1.2	
	21			2-CT	9.3		120.8	0.1	2.1	
	21			PCE	3.5		120.8	0.0	0.8	
4/26-5/5/92 (5/4)	11	VE-6, VE-22	L,N	Total VOCs	430	2701	132.3	5.2		57.0
	11	Grit Chamber		CB	90		132.3	1.1	11.9	
	11			1,2-DCB	79		132.3	1.0	10.5	
	11			1,4-DCB	15		132.3	0.2	2.0	
	11			1,3-DCB	4.7		132.3	0.1	0.6	
	11			2-CT	7.2		132.3	0.1	1.0	
	11			PCE	3.5		132.3	0.0	0.5	
5/5-5/22/92 (5/18)	14	VE-6, VE-22	N,M	Total VOCs	509	2430	119.1	5.5		77.2
	14			CB	107		119.1	1.2	16.2	
	14			1,2-DCB	193		119.1	2.1	29.3	
	14			1,4-DCB	19		119.1	0.2	2.9	
	14			2-CT	5.6		119.1	0.1	0.8	
	14			PCE	3.6		119.1	0.0	0.5	
5/22-6/5/92 (5/29)	12.4	VE-6, VE-22	N,M	Total VOCs	355.2	2550	125.0	4.0		50.1
	13.4			CB	32		125.0	0.4	4.9	
	13.4			1,2-DCB	63		125.0	0.7	9.6	
	13.4			1,4-DCB	19		125.0	0.2	2.9	
	13.4			2-CT	4.8		125.0	0.1	0.7	
	13.4			PCE	4.4		125.0	0.1	0.7	
6/5-6/19/92 (6/12)	11.4	VE-6, VE-22	N,M	Total VOCs	758	2520	123.5	8.5		97.1
	11.4			CB	51		123.5	0.6	6.5	
	11.4			1,2-DCB	165		123.5	1.9	21.1	
	11.4			1,4-DCB	27		123.5	0.3	3.5	
	11.4			1,3-DCB	6.6		123.5	0.1	0.8	
	11.4			2-CT	4.3		123.5	0.0	0.6	
	11.4			PCE	4		123.5	0.0	0.5	
6/19-7/3/92 (6/26)	11.6	VE-6, VE-22	J,M	Total VOCs	302	2430	119.1	3.3		38.0
	11.6			CB	15		119.1	0.2	1.9	
	11.6			1,2-DCB	220		119.1	2.4	27.7	
	11.6			1,4-DCB	8.5		119.1	0.1	1.1	
	11.6			1,3-DCB	3.3		119.1	0.0	0.4	
	11.6			PCE	2.5		119.1	0.0	0.3	
7/3-7/27/92 (7/16)	22.1	VE-6, VE-22	J,M	Total VOCs	398	2565	125.7	4.6		100.6
System off	22.1			CB	15		125.7	0.2	3.8	
7/25-7/26	22.1			1,2-DCB	170		125.7	1.9	43.0	
	22.1			1,4-DCB	21		125.7	0.2	5.3	
	22.1			1,3-DCB	9.4		125.7	0.1	2.4	
	22.1			PCE	4.4		125.7	0.1	1.1	

TABLE 2.0, cont.

IN-LINE GRIT CHAMBER SVE RESULTS

Note:

(xx/xx) = Date sample was collected

Total VOCs = Total Volatile Organic Compounds

cis-DCE = cis-1,2-Dichloroethene

PCE = Tetrachloroethene

TCE = Trichloroethene

CB = Chlorobenzene

1,2-DCB = 1,2-Dichlorobenzene

1,4-PCB = 1,4-Dichlorobenzene

1,3-DCB = 1,3-Dichlorobenzene

2-CT = 2-Chlorotoluene

1,2,4-TMB = 1,2,4-Trimethylbenzene

TABLE 3.0

LOCOMOTIVE SHOP SVE RESULTS

Dates	Number of Days	Extraction Risers In Use	Carbon Units In Use	Compounds Recovered	Sample Results (mg/m ³)	Air Velocity (ft/min)	Air Flow Rate (ft ³ /min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
2/26-2/28/92 (2/27)	1.9	VE-11,VE-12,	H,M	Total VOCs	681	5850	127.5	7.9	0.6	15.0
	1.9	VE-28,VE-29,		cis-DCE	25		127.5	0.3		
	1.9	VE-30		PCE	620		127.5	7.2		
	1.9			TCE	10		127.5	0.1		
2/29-3/2/92 (3/1)	2	VE-11,VE-12,	H,M	Chloroform	4.5	5850	127.5	0.1	0.1	8.3
	2	VE-28,VE-29,		Total VOCs	358		127.5	4.2		
	2	VE-30		cis-DCE	5.1		127.5	0.1		
	2			PCE	350		127.5	4.1		
3/2-3/16/92 (3/6)	13.7	VE-11,VE-12,	H,M	TCE	3.1	5760	127.5	0.0	0.5	28.6
	13.7	VE-29,VE-30,		Total VOCs	183		125.6	2.1		
	13.7			cis-DCE	3.1		125.6	0.0		
3/16-3/27/92 (3/20)	11	VE-11,VE-28,	H,M	PCE	180	6000	125.6	2.1	28.2	12.3
	11	VE-30		Total VOCs	94		130.8	1.1		
3/28-4/10/92 (4/3)	13.2	VE-11,VE-28,	H,M	PCE	94	2632	129.0	0.8	10.5	10.5
	13.2	VE-29		Total VOCs	68		129.0	0.8		
4/11-4/24/92 (4/17)	13	VE-11,VE-28,	H,M	PCE	65	2530	124.0	0.7	9.5	9.5
	13	VE-29		Total VOCs	65		124.0	0.7		
4/25-5/5/92 (5/4)	8.2	VE-11,VE-28,	H,M	PCE	48	2530	124.0	0.5	4.4	4.4
	8.2	VE-29		Total VOCs	48		124.0	0.5		
System off 5/5										
System on 6/23										
6/23-7/3/92 (6/26)	11	VE-11,VE-29,	H,F	Total VOCs	72.5	2340	114.7	0.8	0.3	8.3
	11	Pushing air into VE-28		cis-DCE	2.5		114.7	0.0		
	11			PCE	70		114.7	0.7		
7/3-7/24/92 (7/16)	20.9	VE-11,VE-29,	H,F	Total VOCs	40	2340	114.7	0.4	8.7	8.7
	20.9	Pushing air into VE-28		PCE	40		114.7	0.4		
7/24-9/6/92 (7/31)	16.7	VE-11,VE-29,	H,F	Total VOCs	40	2340	114.7	0.4	7.0	7.0
	16.7	Pushing air into VE-28		PCE	40		114.7	0.4		
9/6-9/30/92 (9/16)	24	VE-11,VE-29,	H,F	Total VOCs	32	2250	110.3	0.3	7.7	7.7
	24	Pushing air into VE-28		PCE	32		110.3	0.3		
9/30-10/30/92 (10/15)	22.8	VE-11,VE-29	H,F	Total VOCs	35	2295	112.0	0.4	8.1	8.1
	22.8	Injecting air into VE-28 (turned off 10/15)		PCE	35		112.0	0.4		
System off 10/20										
System on 10/27										
10/30-12/14/92 (11/22)	39	VE-11,VE-29	H,F	Total VOCs	34	2295	112.0	0.3	13.5	13.5
	39			PCE	34		112.0	0.3		
System off 11/25										
System on 12/2										
System off 12/14										
VOCs removed 2/26-12/14/92										141.7
142.2										

Note:

(xx/xx) = Date sample was collected

Total VOCs = Total Volatile Organic Compounds

cis-DCE = cis-1,2-Dichloroethene

PCE = Tetrachloroethene

TCE = Trichloroethene

TABLE 4.0
MAIN GRIT-CHAMBER COMPOUND SVE RESULTS

Dates	Number of Days	Extraction Risers In Use	Carbon Units In Use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
2/26-2/28/92 (2/27)	1.9	VE-1,VE-2,	A,Q	Total VOCs	227	5670	123.6	2.6		4.9
	1.9	VE-3		cis-DCE	150		123.6	1.7	3.2	
	1.9			PCE	32		123.6	0.4	0.7	
	1.9			TCE	30		123.6	0.3	0.6	
	1.9			CB	15		123.6	0.2	0.3	
2/29-3/6/92 (3/1)	7	VE-1,VE-2,	A,Q	Total VOCs	198	5700	124.3	2.2		15.7
	7	VE-3		cis-DCE	96		124.3	1.1	7.6	
	7			PCE	29		124.3	0.3	2.3	
	7			TCE	27		124.3	0.3	2.1	
	7			CB	14		124.3	0.2	1.1	
3/6-3/20/92 (3/6)	12.9	VE-1,VE-2,	A,Q	Total VOCs	228	5670	123.6	2.6		33.1
	12.9	VE-3		cis-DCE	104		123.6	1.2	15.1	
	12.9			PCE	42		123.6	0.5	6.1	
	12.9			TCE	21		123.6	0.2	3.0	
	12.9			CB	12		123.6	0.1	1.7	
3/20-3/27/92 (3/20)	7	VE-1,VE-2,	A,Q	Total VOCs	201	5445	118.7	2.2		15.2
	7	VE-3		cis-DCE	72		118.7	0.8	5.4	
	7			PCE	39		118.7	0.4	2.9	
	7			TCE	29		118.7	0.3	2.2	
	7			CB	11		118.7	0.1	0.8	
3/28-4/11/92 (4/3)	14	VE-1,VE-2,	A,Q	Total VOCs	206	2593	127.1	2.4		33.3
	14	VE-3		cis-DCE	51		127.1	0.6	8.3	
	14			PCE	49		127.1	0.6	7.9	
	14			TCE	30		127.1	0.3	4.9	
	14			CB	9.8		127.1	0.1	1.6	
4/12-4/26/92 (4/17)	15	VE-1,VE-2,	A,Q,R	Total VOCs	125	2421	118.6	1.3		20.2
	15	VE-3		cis-DCE	20		118.6	0.2	3.2	
	15			PCE	33		118.6	0.4	5.3	
	15			TCE	17		118.6	0.2	2.8	
	15			CB	8.4		118.6	0.1	1.4	
4/27-5/15/92 (5/4)	18	VE-1,VE-2,	A,Q,R	Total VOCs	64	2685	131.6	0.8		13.8
	18	VE-3		cis-DCE	17		131.6	0.2	3.7	
	18			PCE	32		131.6	0.4	6.9	
	18			TCE	10		131.6	0.1	2.2	
	18			CB	5.2		131.6	0.1	1.1	
5/15-5/29/92 (5/22)	10.5	VE-1,VE-2,	Q,R	Total VOCs	63.8	2390	117.1	0.7		7.1
	10.5	VE-3		cis-DCE	17		117.1	0.2	1.9	
	10.5	''		PCE	30		117.1	0.3	3.4	
	10.5			TCE	13		117.1	0.1	1.5	
	10.5			CB	5.2		117.1	0.1	0.6	
5/29-6/12/92 (6/5)	12.6	VE-1,VE-2,	Q,R	Total VOCs	56	2520	123.5	0.6		7.9
	12.6	VE-3		cis-DCE	13		123.5	0.1	1.8	
	12.6	''		PCE	32		123.5	0.4	4.5	
	12.6			TCE	11		123.5	0.1	1.6	

TABLE 4.0, cont.

MAIN GRIT CHAMBER COMPOUND SVE RESULTS

Dates	Number of Days	Extraction Risers In Use	Carbon Units In Use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
										Totals from page one: 119.9 151.2
6/12-6/26/92 (6/19)	14	VE-1,VE-2, VE-3	Q,R	Total VOCs cis-DCE PCE TCE	25.4 5.1 17 3.3	2520	123.5 123.5 123.5 123.5	0.3 0.1 0.2 0.0		4.0
6/26-7/10/92 (7/2)	14	VE-1,VE-2, VE-3	Q,R	Total VOCs cis-DCE PCE TCE	30.2 10 16 4.2	2565	125.7 125.7 125.7 125.7	0.3 0.1 0.2 0.0		4.8
7/10-7/24/92 (7/16)	14	VE-1,VE-2, VE-3	Q,R	Total VOCs cis-DCE PCE TCE	25.9 8.6 14 3.3	2520	123.5 123.5 123.5 123.5	0.3 0.1 0.2 0.0		4.1
7/24-9/6/92 (7/31)	16.7	VE-1,VE-2, VE-3	Q,R	Total VOCs cis-DCE PCE TCE	21.9 7.4 12 2.5	2520	123.5 123.5 123.5 123.5	0.2 0.1 0.1 0.0		4.1
9/6-9/18/92 (9/16)	11.5	VE-1,VE-2, VE-3	D,R (8/31)	Total VOCs cis-DCE PCE TCE	23.1 8.4 12 2.7	2520	123.5 123.5 123.5 123.5	0.3 0.1 0.1 0.0		3.0
System off 9/18							VOCs Removed (2/26-9/18/92)			139.6 171.2

Note:

(xx/xx) = Date sample was collected

Total VOCs = Total Volatile Organic Compounds

cis-DCE = cis-1,2-Dichloroethene

PCE = Tetrachloroethene

TCE = Trichloroethene

CB = Chlorobenzene

* = With packers drawing from bottom 5'

TABLE 5.0

WWTP SUMP SVE RESULTS

Dates	Number of Days	Extraction Risers In Use	Carbon Units In Use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)		
2/7-2/8/92 (2/7)	1.5	VE-31,VE-32	J,G	Total VOCs	282	2151	187.8	4.8	2.9	7.2		
	1.5	VE-33		cis-DCE	112		187.8	1.9				
	1.5			trans-DCE	3.5		187.8	0.1				
	1.5			CB	3.2		187.8	0.1				
	1.5			2-CT	16		187.8	0.3				
2/9-2/10/92 (2/10)	1.6	VE-31,VE-32	J,G	Total VOCs	414	2151	187.8	7.1	2.1	11.3		
	1.6	VE-33		cis-DCE	75		187.8	1.3				
	1.6			PCE	3.7		187.8	0.1				
	1.6			2-CT	29		187.8	0.5				
	1.6			CB	6.2		187.8	0.1				
2/24-3/12/92 (2/28)	14.9	VE-31,VE-32	J,G	Total VOCs	240	1350	117.9	2.6	7.5	38.4		
	14.9	VE-33		cis-DCE	47		117.9	0.5				
	14.9			PCE	3.4		117.9	0.0				
	14.9			2-CT	15		117.9	0.2				
	14.9			CB	5.2		117.9	0.1				
4/8-4/20/92 (4/13)	12	VE-31,VE-32	J,G	Total VOCs	45	2070	180.7	0.7	0.7	8.9		
	12	VE-33,VE-34 VE-38		cis-DCE	3.8		180.7	0.1				
	10	VE-31,VE-32	J,G	Total VOCs	101		180.7	1.7	0.8	16.6		
	10	VE-33,VE-34		cis-DCE	4.7		180.7	0.1				
	10	VE-38		2-CT	5		180.7	0.1				
	10			CB	2.9		180.7	0.0				
System off 2/10-2/24												
System off 3/12-4/8												
System off 4/20-4/30/92 (4/27)												
System off 4/29												
VOCs Removed (2/7-4/30/92)								20.7	82.4			

Note:

(xx/xx) = Date sample was collected

Total VOCs = Total Volatile Organic Compounds

cis-DCE = cis-1,2-Dichloroethene

trans-DCE = trans-1,2-Dichloroethene

CB = Chlorobenzene

2-CT = 2-Chlorotoluene

PCE = Tetrachloroethene

TABLE 6.0

ELECTRIC SHOP SVE RESULTS

Dates	Number of Days	Extraction Risers in Use	Carbon Units in Use	Compounds Recovered	Sample Results (mg/m ³)	Air Velocity (ft/min)	Air Flow Rate (ft ³ /min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
3/5-3/9/92 (3/6)	3.8	VE-19	O,P	Total VOCs	72	5850	127.5	0.8	0.2	3.2
	3.8			cis-DCE	4		127.5	0.0		
	3.8			PCE	60		127.5	0.7		
	3.8			TCE	7.8		127.5	0.1		
3/9-3/11/92 (3/9)	2.4	VE-19	O,P	Total VOCs	60	5850	127.5	0.7	0.1	1.7
	2.4			cis-DCE	2.5		127.5	0.0		
	2.4			PCE	52		127.5	0.6		
	2.4			TCE	5		127.5	0.1		
System off 3/11										
System on 3/23										
3/23-3/27/92 (3/24)	4	VE-18-VE-20	O,P	Total VOCs	1212	40.0	40.0	4.4	0.1	17.6
	4			cis-DCE	3.7		40.0	0.0		
	4			PCE	1200		40.0	4.4		
	4			TCE	8.1		40.0	0.0		
3/27-4/11/92 (4/1)	12.1	VE-18-VE-20	O,P	Total VOCs	424	40.0	40.0	1.5	18.5	18.7
	12.1			PCE	420		40.0	1.5		
	12.1			TCE	4.2		40.0	0.0		
4/11-4/24/92 (4/17)	14	VE-18-VE-20	O,P	Total VOCs	226	40.0	40.0	0.8	0.2	11.5
	14			PCE	221		40.0	0.8		
	14			TCE	4.6		40.0	0.0		
4/25-5/9/92 (5/4)	15	VE-18-VE-20	O,P	Total VOCs	295	40.0	40.0	1.1	0.2	16.1
	15			PCE	291		40.0	1.1		
	15			TCE	3.7		40.0	0.0		
5/9-5/25/92 (5/18)	17	VE-18-VE-20	O,P	Total VOCs	150	40.0	40.0	0.5	0.3	9.3
	17			PCE	146		40.0	0.5		
	17			TCE	4.1		40.0	0.0		
5/25-6/5/92 (5/29)	12	VE-18,VE-20 VE-23	O,P	Total VOCs	424.4	2750	134.8	5.2	0.5	62.4
	12			PCE	421		134.8	5.2		
	12			TCE	3.4		134.8	0.0		
6/5-6/19/92 (6/12)	14	VE-18-VE-20 VE-23	O,P	Total VOCs	295.4	2750	134.8	3.6	0.9	50.7
	14			PCE	290		134.8	3.6		
	14			TCE	5.4		134.8	0.1		
6/9-7/3/92 (6/26)	14	VE-18,VE-20 VE-23	O,P	Total VOCs	266.7	2430	119.1	2.9	1.0	40.5
	14			PCE	260		119.1	2.8		
	14			TCE	6.7		119.1	0.1		
7/3-7/24/92 (7/16)	21	VE-18,VE-20 VE-23	O,P	Total VOCs	185	2475	121.3	2.0	1.3	42.9
	21			PCE	180		121.3	2.0		
	21			TCE	5.5		121.3	0.1		
7/24-9/6/92 (7/31)	16.7	VE-18,VE-20 VE-23	O,P	Total VOCs	186	2475	121.3	2.1	1.0	34.3
	16.7			PCE	180		121.3	2.0		
	16.7			TCE	5.5		121.3	0.1		
9/6-9/30/92 (9/16)	24	VE-18,VE-20 VE-23	P,A (8/31)	Total VOCs	154	2475	121.3	1.7	1.0	40.8
	24			PCE	150		121.3	1.7		
	24			TCE	3.8		121.3	0.0		
9/30-10/30/92 (10/15)	22.8	VE-18,VE-20 VE-23	P,A	Total VOCs	59	2587	127.0	0.7	15.5	15.5
	22.8			PCE	59		127.0	0.7		
System off 10/20										
System on 10/27										
10/31-12/20/92 (11/22)	45	VE-18,VE-20 VE-23	P,A	Total VOCs	41	2587	127.0	0.5	21.3	21.3
	45			PCE	41		127.0	0.5		
System off 11/25										
System on 12/2										
System off 12/20										
VOCs Removed (3/5-12/20/92)									386.4	386.5

Note:

(xxx) = Date sample was collected

Total VOCs = Total Volatile Organic Compounds

cis-DCE = cis-1,2-Dichloroethene

PCE = Tetrachloroethene

TABLE 7.0
TRANSFER-PIT MANWAY SVE RESULTS

Dates	Number of Days	Extraction Risers In use	Carbon Units In use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
3/23-3/27/92 (3/24)	4	VE-13	O,P	Total VOCs	575	1240	108.3	5.7	15.4 0.1 0.1 7.1	22.7
	4			PCE	390		108.3	3.8		
	4			TCE	2.5		108.3	0.0		
	4			cis-DCE	2.5		108.3	0.0		
	4			CB	180		108.3	1.8		
3/27-4/10/92 (4/1)	12.1	VE-13	O,P	Total VOCs	126	1150	100.4	1.2	13.9	13.9
	12.1			PCE	126		100.4	1.2		
4/11-4/24/92 (4/17)	14	VE-13	O,P	Total VOCs	86	1150	100.4	0.8	11.0	11.0
	14			PCE	86		100.4	0.8		
4/25-5/9/92 (5/4)	15	VE-13	O,P	Total VOCs	70	1200	104.8	0.7	10.0	10.0
	15			PCE	70		104.8	0.7		
5/9-5/25/92 (5/18)	15.8	VE-13,VE-24 VE-25,VE-26	O,P	Total VOCs	79	1125	98.2	0.7	11.2	11.2
	15.8			PCE	79		98.2	0.7		
System off 5/25										
System on 9/30										
9/30-10/7/92 (10/1)	7.4	VE-13,VE-24 VE-25,VE-26	K,B	Total VOCs	145	2610	128	1.7	12.1 0.2 0.2	12.5
	7.4			PCE	140		128	1.6		
	7.4			TCE	2.8		128	0.0		
	7.4			1,1,1-TCE	2.5		128	0.0		
10/7-10/30/92 (10/15)	15.6	VE-13,VE-24 VE-25,VE-26	K,B	Total VOCs	36	2610	128	0.4	6.5	6.5
	15.6			PCE	36		128	0.4		
System off 10/20										
System on 10/27										
10/30-12/20/92 (11/22)	40	VE-13,VE-24 VE-25,VE-26	K,B	Total VOCs	31	2610	128	0.4	14.4	14.4
	40			PCE	31		128	0.4		
System off 11/16										
System on 11/20										
System off 11/25										
System on 12/2										
System off 12/20										
VOCs Removed (3/23-12/20/92)										102.3
VOCs Removed (3/23-12/20/92)										102.2

Note: (xx/xx) = Date sample was taken

Total VOCs = Total Volatile Organic Compounds

PCE = Tetrachloroethene

TCE = Trichloroethene

cis-DCE = cis-1,2-Dichloroethene

CB = Chlorobenzene

TABLE 8.0

CINDER PILE SVE RESULTS

Dates	Number of Days	Extraction Risers in use	Carbon Units in use	Compounds Recovered	Sample Results (mg/m3)	Air Velocity (ft/min)	Air Flow Rate (ft3/min)	VOCs Removed (#/day)	VOCs Removed (#/period)	Total VOCs (#/period)
4/1-4/6/92 (4/2)	5.2	VE-7,VE-8	E,K	Total VOCs	126	1558	136.0	1.6	0.3	8.1
	5.2	VE-9,VE-10		cis-DCE	5.1		136.0	0.1		
	5.2			2-CT	3.8		136.0	0.0		
	5.2			CB	3.4		136.0	0.0		
4/6-4/12/92 (4/6)	6	VE-7,VE-8	E,K	Total VOCs	427	1580	137.9	5.4	0.2	32.2
	6	VE-9,VE-10		PCE	2.8		137.9	0.0		
	6			cis-DCE	4.3		137.9	0.1		
	6			2-CT	5.3		137.9	0.1		
	6			CB	4.3		137.9	0.1		
4/12-4/16/92 4/13)	4	VE-7,VE-8	E,K	Total VOCs	224	1558	136.0	2.8	0.1	11.1
	4	VE-9,VE-10		PCE	2.5		136.0	0.0		
	4			1,1,1-TCA	2.6		136.0	0.0		
	4			cis-DCE	2.5		136.0	0.0		
	4			2-CT	6.7		136.0	0.1		
	4			CB	3.5		136.0	0.0		
	4			NA	4.2		136.0	0.1		
4/16-4/30/92 (4/28)	14	VE-7,VE-8	E,K	Total VOCs	349	2950	144.6	4.6	0.5	64.3
	14	VE-9,VE-10		cis-DCE	2.6		144.6	0.0		
	14	VE-14,VE-15		2-CT	9.1		144.6	0.1		
	14	VE-16,VE-17		CB	4.8		144.6	0.1		
4/30-5/15/92 (5/13)	15	VE-7,VE-8	E,K	Total VOCs	190	2590	126.9	2.2	0.4	32.9
	15	VE-9,VE-10		2-CT	12		126.9	0.1		
	15	VE-14,VE-15		CB	5.8		126.9	0.1		
	15	VE-16,VE-17		PCE	2.5		126.9	0.0		
5/15-6/5/92 (5/22)	21.4	VE-14,VE-15	E,K	Total VOCs	286	2580	126.4	3.3	0.6	70.4
	21.4	VE-16,VE-17		2-CT	8.3		126.4	0.1		
	21.4			CB	5.4		126.4	0.1		
	21.4			PCE	2.5		126.4	0.0		
System off 6/5 - 8/19										
8/19-8/21/92 (8/21)	2.5	Injecting air	E,K	Total VOCs	391	2295	112.5	4.0	0.1	10.0
	2.5	VE-16		cis-DCE	3.7		112.5	0.0		
	2.5	Vacuum on		2-CT	7.1		112.5	0.1		
	2.5	VE-14,VE-17		CB	2.8		112.5	0.0		
System off 8/21										
VOCs Removed (4/1-8/21/92)								14.0	229.0	

Note: (xx/xx) = Date sample was taken

Total VOCs = Total Volatile Organic Compounds

PCE = Tetrachloroethene

cis-DCE = cis-1,2-Dichloroethene

CB = Chlorobenzene

2-CT = 2-Chlorotoluene

1,1,1-TCA = 1,1,1-Trichloroethane

NA - Naphthalene

APPENDIX A
SVE SYSTEM SAMPLE RESULTS

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49556

DATE: 12/21/92 da

RECEIVED
DEC 28 1992
ENVIROCON, Inc.
Livingston, MTAIR ANALYSIS

Livingston/BN

140101-SG-248

Sampled 11/22/92 @ 1422

Submitted 11/24/92

Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 2.5

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

M 12/26

RECEIVED
DEC 23 1992
ENVIRONMENTAL
LABORATORIES, INC.TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047LAB NO.: 92-49555
DATE: 12/21/92 da

AIR ANALYSIS
Livingston/BN
140101-SG-247
Sampled 11/22/92 @ 1421
Submitted 11/24/92
Analyzed 12/04/92

*Between
Carbons TP measured*

Constituentmg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	.....	< 2.5
Bromoform	.....	< 2.5
Bromomethane	.....	< 2.5
Carbon tetrachloride	.....	< 2.5
Chlorobenzene	.....	< 2.5
Chloroethane	.....	< 2.5
2-Chloroethylvinyl ether	.....	< 2.5
2-Chlorotoluene	.....	< 2.5
Chloroform	.....	< 2.5
Chloromethane	.....	< 2.5
Dibromochloromethane	.....	< 2.5
1,2-Dichlorobenzene	.....	< 2.5
1,3-Dichlorobenzene	.....	< 2.5
1,4-Dichlorobenzene	.....	< 2.5
1,1-Dichloroethane	.....	< 2.5
1,2-Dichloroethane	.....	< 2.5
1,1-Dichloroethene	.....	< 2.5
cis-1,2-Dichloroethene	.....	< 2.5
trans-1,2-Dichloroethene	.....	< 2.5
1,2-Dichloropropane	.....	< 2.5
cis-1,3-Dichloropropene	.....	< 2.5
trans-1,3-Dichloropropene	.....	< 2.5
Methylene chloride	.....	< 2.5
1,1,2,2-Tetrachloroethane	.....	< 2.5
Tetrachloroethene	.....	< 2.5
1,1,1-Trichloroethane	.....	< 2.5
1,1,2-Trichloroethane	.....	< 2.5
Trichloroethene	.....	< 2.5
Trichlorofluoromethane	.....	< 2.5
Vinyl chloride	.....	< 2.5
Dichlorodifluoromethane	.....	< 2.5
Total VOC Response	.....	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

M 27/28

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49554,
DATE: 12/21/92 da

RECEIVED
DEC 28 1992
ENVIRONMENTAL
UNIVERSITY

AIR ANALYSIS

Livingston/BN
140101-SG-246
Sampled 11/22/92 @ 1420
Submitted 11/24/92
Analyzed 12/04/92

Effluent to Atmosphere
TP Norway's

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORTRECEIVED
12/21/92
Environ
Sci. Inc.**TO:** Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047**LAB NO.:** 92-49553
DATE: 12/21/92 da**AIR ANALYSIS**

Livingston/BN
140101-SG-245
Sampled 11/22/92 @ 1415
Submitted 11/24/92
Analyzed 12/04/92

*Influent to
Culvert
Electric*

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	41 *
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	41

*Value derived from a 5X dilution.

NOTE: This analysis is equivalent to EPA Methods 601/8010.

COMPLETE ENVIRONMENTAL ANALYTICAL SERVICE

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49552

DATE: 12/21/92 da

RECEIVED
12/23/92
ENVIRONMENTAL
LIVINGSTON, MTAIR ANALYSIS

Livingston/BN
140101-SG-244
Sampled 11/22/92 @ 1414
Submitted 11/24/92
Analyzed 12/04/92

Constituent	mg/m ³
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49551
DATE: 12/21/92 da

RECEIVED
DEC 26 1992
ENVIRONMENTAL
LIVINGSTON

AIR ANALYSIS

Livingston/BN
140101-SG-243
Sampled 11/22/92 @ 1413
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4899

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49550

DATE: 12/21/92

SEARCHED
INDEXED
SERIALIZED
FILED
DECEMBER 22, 1972
ENVIROCOIN, Inc.
Wingston, Mt.

AIR ANALYSIS

Livingston/BN
140101-SG-242
Sampled 11/22/92 @ 1353
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	34
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	34

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49550 dup
DATE: 12/21/92 da

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12/22/92
ENVROCON, Inc.
Livingston, MT

QUALITY ASSURANCE-DUPLICATE ANALYSIS

Livingston/BN
140101-SG-242
Sampled 11/22/92 @ 1353
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	32
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	32

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49549
DATE: 12/21/92 da

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12/21/92

Envirocon
Livingston, MT

AIR ANALYSIS

Livingston/BN
140101-SG-241
Sampled 11/22/92 @ 1352
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49548
DATE: 12/21/92 da

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DL 23 1992

ENVIRONMENTAL
LIVINGSTON, MT

AIR ANALYSIS

Livingston/BN
140101-SG-240
Sampled 11/22/92 @ 1351
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49547
DATE: 12/21/92 da

RECEIVED
12/23/92
ENVIRONMENTAL
LIVINGSTON, INC.
12/23/92

AIR ANALYSIS

Livingston/BN
140101-SG-239
Sampled 11/22/92 @ 1337
Submitted 11/24/92
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	15
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	40 *
1,3-Dichlorobenzene	4.4
1,4-Dichlorobenzene	11
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	5.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	175

*Value derived from a 5X dilution.

NOTE: This analysis is equivalent to EPA Methods 601/8010.

COMPLETE ENVIRONMENTAL ANALYTICAL SERVICE

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49546
DATE: 12/21/92 da

RECEIVED
12/21/92
ENVIRONMENTAL
LIVINGSTON, MT.

AIR ANALYSIS

Livingston/BN
140101-SG-238
Sampled 11/22/92 @ 1336
Submitted 11/24/92
Analyzed 11/30/92

*Between
Centers
Indoor
gym
sample*

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49545

DATE: 12/21/92 da

*RECEIVED
12/21/92
Envirocon, Inc.
1154 P.O. Box
Livingston, MT 59047***AIR ANALYSIS**

Livingston/BN
140101-SG-237
Sampled 11/22/92 @ 1335
Submitted 11/24/92
Analyzed 11/30/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

M 11/3 11/11/92
RECEIVED
11/11/92**LABORATORY REPORT**

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43787
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-236
Sampled 10/15/92 @ 1055
Submitted 10/20/92
Analyzed 10/29/92

CONSTITUENT	mg/m³
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	36
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	36

NOTE: This analysis is equivalent to EPA Method 601/8010.

M 11/13 NOV 12 1992
ENRVOCON INC
Vit**LABORATORY REPORT**

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43786
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-235

Sampled 10/15/92 @ 1054

Submitted 10/20/92

Analyzed 10/29/92

CONSTITUENTmg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	.....	<2.5
Bromoform	.....	<2.5
Bromomethane	.....	<2.5
Carbon tetrachloride	.....	<2.5
Chlorobenzene	.....	<2.5
Chloroethane	.....	<2.5
2-Chloroethylvinyl ether	.....	<2.5
2-Chlorotoluene	.....	<2.5
Chloroform	.....	<2.5
Chloromethane	.....	<2.5
Dibromochloromethane	.....	<2.5
1,2-Dichlorobenzene	.....	<2.5
1,3-Dichlorobenzene	.....	<2.5
1,4-Dichlorobenzene	.....	<2.5
1,1-Dichloroethane	.....	<2.5
1,2-Dichloroethane	.....	<2.5
1,1-Dichloroethene	.....	<2.5
cis-1,2-Dichloroethene	.....	<2.5
trans-1,2-Dichloroethene	.....	<2.5
1,2-Dichloropropane	.....	<2.5
cis-1,3-Dichloropropene	.....	<2.5
trans-1,3-Dichloropropene	.....	<2.5
Methylene chloride	.....	<2.5
1,1,2,2-Tetrachloroethane	.....	<2.5
Tetrachloroethene	.....	<2.5
1,1,1-Trichloroethane	.....	<2.5
1,1,2-Trichloroethane	.....	<2.5
Trichloroethene	.....	<2.5
Trichlorofluoromethane	.....	<2.5
Vinyl chloride	.....	<2.5
Dichlorodifluoromethane	.....	<2.5
Total VOC Response	.....	<30

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43785
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-234

Sampled 10/15/92 @ 1053

Submitted 10/20/92

Analyzed 10/29/92

CONSTITUENTmg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

✓

NOTE: This analysis is equivalent to EPA Method 601/8010.

RECEIVED
M 11/13/92
NOV 12 1992
ENVIROCON, Inc.
Livingston Mt.**LABORATORY REPORT**

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43784
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-233
Sampled 10/15/92 @ 1045
Submitted 10/20/92
Analyzed 10/29/92

CONSTITUENT**mg/m³****Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	59
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	59

* Value derived from a 5x dilution.

✓

NOTE: This analysis is equivalent to EPA Method 601/8010.

**ENERGY LABORATORIES, INC.**

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

RECEIVED 11/13/92

LABORATORY REPORT

ENVIRONMENTAL ANALYTICAL SERVICES, INC.
1107 South Broadway, Billings, MT 59107

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43783
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-232

Sampled 10/15/92 @ 1044

Submitted 10/20/92

Analyzed 10/29/92

CONSTITUENT

mg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

✓

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43782
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-231

Sampled 10/15/92 @ 1043

Submitted 10/20/92

Analyzed 10/29/92

CONSTITUENTmg/m³**Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43781
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-230

Sampled 10/15/92 @ 1005

Submitted 10/20/92

Analyzed 10/29/92

CONSTITUENT **mg/m³****Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	35
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	35

NOTE: This analysis is equivalent to EPA Method 601/8010.

RECEIVED 11/11/92
ENVIRCO
LIVESTOCK, INC.**LABORATORY REPORT**

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43780
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-229
Sampled 10/15/92 @ 1004
Submitted 10/20/92
Analyzed 10/28/92

CONSTITUENT **mg/m³**

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43780 dup
DATE: 11/11/92 crp

QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston/BN, 140101-SG-229
Sampled 10/15/92 @ 1004
Submitted 10/20/92
Analyzed 10/28/92

CONSTITUENTmg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	<2.5
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

✓

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT**ENVIRONCON, INC.
Livingston, MT****TO:** Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047**LAB NO.:** 92-43779
DATE: 11/11/92 crp**AIR ANALYSIS**

Livingston/BN, 140101-SG-228

Sampled 10/15/92 @ 1003

Submitted 10/20/92

Analyzed 10/28/92

CONSTITUENT**mg/m³****Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	.....	<2.5
Bromoform	.....	<2.5
Bromomethane	.....	<2.5
Carbon tetrachloride	.....	<2.5
Chlorobenzene	.....	<2.5
Chloroethane	.....	<2.5
2-Chloroethylvinyl ether	.....	<2.5
2-Chlorotoluene	.....	<2.5
Chloroform	.....	<2.5
Chloromethane	.....	<2.5
Dibromochloromethane	.....	<2.5
1,2-Dichlorobenzene	.....	<2.5
1,3-Dichlorobenzene	.....	<2.5
1,4-Dichlorobenzene	.....	<2.5
1,1-Dichloroethane	.....	<2.5
1,2-Dichloroethane	.....	<2.5
1,1-Dichloroethene	.....	<2.5
cis-1,2-Dichloroethene	.....	<2.5
trans-1,2-Dichloroethene	.....	<2.5
1,2-Dichloropropane	.....	<2.5
cis-1,3-Dichloropropene	.....	<2.5
trans-1,3-Dichloropropene	.....	<2.5
Methylene chloride	.....	<2.5
1,1,2,2-Tetrachloroethane	.....	<2.5
Tetrachloroethene	.....	<2.5
1,1,1-Trichloroethane	.....	<2.5
1,1,2-Trichloroethane	.....	<2.5
Trichloroethene	.....	<2.5
Trichlorofluoromethane	.....	<2.5
Vinyl chloride	.....	<2.5
Dichlorodifluoromethane	.....	<2.5
Total VOC Response	.....	<30

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43778
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-227

Sampled 10/15/92 @ 0937

Submitted 10/20/92

Analyzed 10/28/92

CONSTITUENT**mg/m³****Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	.....	<2.5
Bromoform	.....	<2.5
Bromomethane	.....	<2.5
Carbon tetrachloride	.....	<2.5
Chlorobenzene	.....	7.1
Chloroethane	.....	<2.5
2-Chloroethylvinyl ether	.....	<2.5
2-Chlorotoluene	.....	<2.5
Chloroform	.....	<2.5
Chloromethane	.....	<2.5
Dibromochloromethane	.....	<2.5
1,2-Dichlorobenzene	.....	130 *
1,3-Dichlorobenzene	.....	7.0
1,4-Dichlorobenzene	.....	12
1,1-Dichloroethane	.....	<2.5
1,2-Dichloroethane	.....	<2.5
1,1-Dichloroethene	.....	<2.5
cis-1,2-Dichloroethene	.....	<2.5
trans-1,2-Dichloroethene	.....	<2.5
1,2-Dichloropropane	.....	<2.5
cis-1,3-Dichloropropene	.....	<2.5
trans-1,3-Dichloropropene	.....	<2.5
Methylene chloride	.....	<2.5
1,1,2,2-Tetrachloroethane	.....	<2.5
Tetrachloroethene	.....	3.5
1,1,1-Trichloroethane	.....	<2.5
1,1,2-Trichloroethane	.....	<2.5
Trichloroethene	.....	<2.5
Trichlorofluoromethane	.....	<2.5
Vinyl chloride	.....	<2.5
Dichlorodifluoromethane	.....	<2.5
Total VOC Response	.....	253

* Value derived from a 5x dilution.

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43777
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-226

Sampled 10/15/92 @ 0936

Submitted 10/20/92

Analyzed 10/28/92

CONSTITUENTmg/m³**Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	.....	< 2.5
Bromoform	.....	< 2.5
Bromomethane	.....	< 2.5
Carbon tetrachloride	.....	< 2.5
Chlorobenzene	.....	32 *
Chloroethane	.....	< 2.5
2-Chloroethylvinyl ether	.....	< 2.5
2-Chlorotoluene	.....	< 2.5
Chloroform	.....	< 2.5
Chloromethane	.....	< 2.5
Dibromochloromethane	.....	< 2.5
1,2-Dichlorobenzene	.....	9.6
1,3-Dichlorobenzene	.....	< 2.5
1,4-Dichlorobenzene	.....	< 2.5
1,1-Dichloroethane	.....	< 2.5
1,2-Dichloroethane	.....	< 2.5
1,1-Dichloroethene	.....	< 2.5
cis-1,2-Dichloroethene	.....	3.4
trans-1,2-Dichloroethene	.....	< 2.5
1,2-Dichloropropane	.....	< 2.5
cis-1,3-Dichloropropene	.....	< 2.5
trans-1,3-Dichloropropene	.....	< 2.5
Methylene chloride	.....	< 2.5
1,1,2,2-Tetrachloroethane	.....	< 2.5
Tetrachloroethene	.....	10
1,1,1-Trichloroethane	.....	< 2.5
1,1,2-Trichloroethane	.....	< 2.5
Trichloroethene	.....	< 2.5
Trichlorofluoromethane	.....	< 2.5
Vinyl chloride	.....	< 2.5
Dichlorodifluoromethane	.....	< 2.5
Total VOC Response	.....	55

* Value derived from a 5x dilution.

NOTE: This analysis is equivalent to EPA Method 601/8010.

11/13
RECEIVED
12 199**LABORATORY REPORT**ENVIRONMENTAL
Livingston, Mt.

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-43776
DATE: 11/11/92 crp

AIR ANALYSIS

Livingston/BN, 140101-SG-225

Sampled 10/15/92 @ 0935

Submitted 10/20/92

Analyzed 10/28/92

CONSTITUENTmg/m³**Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

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NOTE: This analysis is equivalent to EPA Method 601/8010.

mid 30's

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59457LAB NO: 92-39346
DATE: 10/27/92 af
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OCT 30 1992

AIR ANALYSISLivingston/BN, 140101-SG-224
Sampled 10/01/92 @ 1035
Submitted 10/06/92
Analyzed 10/16/92ENVIRONMENTAL
Livingston, Mt.CONSTITUENTmg/m³

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	.....	< 2.5
Bromoform	.....	< 2.5
Bromomethane	.....	< 2.5
Carbon tetrachloride	.....	< 2.5
Chlorobenzene	.....	< 2.5
Chloroethane	.....	< 2.5
2-Chloroethylvinyl ether	.....	< 2.5
2-Chlorotoluene	.....	< 2.5
Chloroform	.....	< 2.5
Chloromethane	.....	< 2.5
Dibromochloromethane	.....	< 2.5
1,2-Dichlorobenzene	.....	< 2.5
1,3-Dichlorobenzene	.....	< 2.5
1,4-Dichlorobenzene	.....	< 2.5
1,1-Dichloroethane	.....	< 2.5
1,2-Dichloroethane	.....	< 2.5
1,1-Dichloroethene	.....	< 2.5
cis-1,2-Dichloroethene	.....	< 2.5
trans-1,2-Dichloroethene	.....	< 2.5
1,2-Dichloropropane	.....	< 2.5
cis-1,3-Dichloropropene	.....	< 2.5
trans-1,3-Dichloropropene	.....	< 2.5
Methylene chloride	.....	< 2.5
1,1,2,2-Tetrachloroethane	.....	< 2.5
Tetrachloroethene	.....	140 *
1,1,1-Trichloroethane	.....	2.5
1,1,2-Trichloroethane	.....	< 2.5
Trichloroethene	.....	2.8
Trichlorofluoromethane	.....	< 2.5
Vinyl chloride	.....	< 2.5
Dichlorodifluoromethane	.....	< 2.5
Total VOC Response	.....	145 ✓

NOTE: This analysis is equivalent to EPA Methods 601/8010.

* Value derived from a 5x dilution.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 12/21/92 da

AIR ANALYSIS

Method Blank
Analyzed 11/30/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank

DATE: 12/21/92

RECEIVED
DECEMBER 23 1992
ENVIRONMENTAL LABORATORIES
1107 South Broadway
Billings, MT 59107

AIR ANALYSIS

Method Blank
Analyzed 12/04/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.

M 14 NOV 12 1992
ENRICO, INC.**LABORATORY REPORT**

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 11/11/92 crp

AIR ANALYSIS

Method Blank
Analyzed 10/28/92

CONSTITUENT**mg/m³****Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	.....	< 2.5
Bromoform	.....	< 2.5
Bromomethane	.....	< 2.5
Carbon tetrachloride	.....	< 2.5
Chlorobenzene	.....	< 2.5
Chloroethane	.....	< 2.5
2-Chloroethylvinyl ether	.....	< 2.5
2-Chlorotoluene	.....	< 2.5
Chloroform	.....	< 2.5
Chloromethane	.....	< 2.5
Dibromochloromethane	.....	< 2.5
1,2-Dichlorobenzene	.....	< 2.5
1,3-Dichlorobenzene	.....	< 2.5
1,4-Dichlorobenzene	.....	< 2.5
1,1-Dichloroethane	.....	< 2.5
1,2-Dichloroethane	.....	< 2.5
1,1-Dichloroethene	.....	< 2.5
cis-1,2-Dichloroethene	.....	< 2.5
trans-1,2-Dichloroethene	.....	< 2.5
1,2-Dichloropropane	.....	< 2.5
cis-1,3-Dichloropropene	.....	< 2.5
trans-1,3-Dichloropropene	.....	< 2.5
Methylene chloride	.....	< 2.5
1,1,2,2-Tetrachloroethane	.....	< 2.5
Tetrachloroethene	.....	< 2.5
1,1,1-Trichloroethane	.....	< 2.5
1,1,2-Trichloroethane	.....	< 2.5
Trichloroethene	.....	< 2.5
Trichlorofluoromethane	.....	< 2.5
Vinyl chloride	.....	< 2.5
Dichlorodifluoromethane	.....	< 2.5
Total VOC Response	.....	< 30

NOTE: This analysis is equivalent to EPA Method 601/8010.

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 11/11/92 crp

AIR ANALYSIS

Method Blank
Analyzed 10/29/92

CONSTITUENT	mg/m³
Purgeable Halocarbons (EPA Method 8260)	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30

NOTE: This analysis is equivalent to EPA Method 601/8010.

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59457

LAB NO: Blank
DATE: 10/27/92 af

AIR ANALYSIS**RECEIVED**Method Blank
Analyzed 10/16/92

OCT 30 1992

CONSTITUENTmg/m³ **ENVIROCON, Inc.**
Livingston, Mt.

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	.....	< 2.5
Bromoform	.....	< 2.5
Bromomethane	.....	< 2.5
Carbon tetrachloride	.....	< 2.5
Chlorobenzene	.....	< 2.5
Chloroethane	.....	< 2.5
2-Chloroethylvinyl ether	.....	< 2.5
2-Chlorotoluene	.....	< 2.5
Chloroform	.....	< 2.5
Chloromethane	.....	< 2.5
Dibromochloromethane	.....	< 2.5
1,2-Dichlorobenzene	.....	< 2.5
1,3-Dichlorobenzene	.....	< 2.5
1,4-Dichlorobenzene	.....	< 2.5
1,1-Dichloroethane	.....	< 2.5
1,2-Dichloroethane	.....	< 2.5
1,1-Dichloroethene	.....	< 2.5
cis-1,2-Dichloroethene	.....	< 2.5
trans-1,2-Dichloroethene	.....	< 2.5
1,2-Dichloropropane	.....	< 2.5
cis-1,3-Dichloropropene	.....	< 2.5
trans-1,3-Dichloropropene	.....	< 2.5
Methylene chloride	.....	< 2.5
1,1,2,2-Tetrachloroethane	.....	< 2.5
Tetrachloroethene	.....	< 2.5
1,1,1-Trichloroethane	.....	< 2.5
1,1,2-Trichloroethane	.....	< 2.5
Trichloroethene	.....	< 2.5
Trichlorofluoromethane	.....	< 2.5
Vinyl chloride	.....	< 2.5
Dichlorodifluoromethane	.....	< 2.5
Total VOC Response	.....	< 30

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

RECEIVED

DEC 28 1992

ENVIROCON, Inc.
Livingston, Mt.

December 21, 1992

Steve Sasse
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On November 24, 1992 these samples, represented by our laboratory numbers 92-49545 to 92-49556, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: Joe Standard



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-785-4489

RECEIVED
M 14/2 12 1992
AOL
Livingston, Inc.

November 11, 1992

Steve Sasse
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On October 20, 1992, these samples, represented by our laboratory numbers 92-43776 to 92-43787, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:

A handwritten signature in black ink. The signature appears to read "Deborah R. Gunn" and is written in a cursive, flowing style.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

10/30/92

October 27, 1992

RECEIVED
OCT 30 1992

ENVIROCON, Inc.
Livingston, MT

Steve Sasse
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59457

On October 6, 1992 this sample, represented by our laboratory number 92-39346, was submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:

Joe Stander

APPENDIX B
PHOTOIONIZATION-DETECTOR READINGS

Electric Shop

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 25

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 25

11/16/22 System Check + samples
PID Err. 0.0
Between Carbons 0.0
Comb 65+

11/16/22 System Check
System off when I got here,
off?

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 36+

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 36+

Flux out carbon 2750 into carbon 6000

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 25

11/16/22 System Check
PID Err. 0.0
Between Carbons 5.0
Comb 45+

11/16/22 System Check
PID Err. 0.0
Between Carbons 10
Comb 65+

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 55

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 45+

11/16/22 System Check
PID Err. 0.0
Between Carbons 5.0
Comb 55

11/16/22 System Check
PID Err. 0.0
Between Carbons 0.0
Comb 55

Electric Shop

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 Int歇 lower 2000 out carbon 2875
Between carbons 00
Comb 25

10/16/20 System check + samples
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 shot system down @ 0620

10/16/20 start system @ 1000
1000 system check
PID off 0.5 3.0
Between carbons 33
Comb 40

10/16/20 System check
P10 EFT 0.0
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 2.0
Between carbons 21
Comb 25

10/16/20 checked but forgot to write down
10/16/20 System check
P10 EFT 3.6
Between carbons 00
Comb 25

10/16/20 System check
P10 EFT 2.5
Between carbons 23
Comb 25

10/16/20 System check
P10 EFT 3.5
Between carbons 00
Comb 25

Electric Shop

1/24/02 system check samples

PID eff 0.0

Between carbons 0.0

Comb 20

1/24/02 system check

PID eff 1.1

Between carbons 2.8

Comb 21

1/25/02 shot system down @ 1500
data started system @ 1500

1/25/02 system check

PID eff 0.0

Between carbons 1.3

Comb 20

1/25/02 system check

PID eff 1.0

Between carbons 2.6

Comb 21

1/25/02 system check

PID eff 2.6

Between carbons 5.2

Comb 22

1/25/02 system check

PID eff 1.0

Between carbons 5.2

Comb 23

1/25/02 system check

PID eff 0.9

Between carbons 5.2

Comb 24

1/26/02 system check

PID eff 0.0

Between carbons 0.0

Comb 20

1/26/02 system check

PID eff 1.3

Between carbons 1.1

Comb 21

1/26/02 system check

PID eff 1.0

Between carbons 1.9

Comb 22

1/26/02 system check

PID eff 2.6

Between carbons 10

Comb 23

1/26/02 system check

PID eff 1.6

Between carbons 2.0

Comb 24

1/26/02 sometime between 20th-27th
~~system shot off~~ left off

Locomotive Shop

10/11/2022 system check
out PID Eff 0.0
Between carbons 120
Comb 17+

10/11/2022 system check
PID Eff .5
Between carbons 1.3

10/11/2022 system check
PID Eff 0.0
Between carbons 0.0

10/11/2022 system check
PID Eff 0.0
Between carbons 0.2
Comb 26.4

10/11/2022 system check
PID Eff 0.0
Between carbons 0.0
Comb 15

10/11/2022 system check
PID Eff 0.0
Between carbons 0.0
Comb 10

Flows into carbon 5150 out carbons 1600

10/11/2022 system check
out PID Eff 0.0
Between carbons 69
Comb 17+

* 10/11/2022 @ 9:30 Took injection blower
off line

10/11/2022 system check & samples
out PID Eff 0.0
Between carbons 0.0
Comb 20

10/11/2022 system check
PID Eff 0.0
Between carbons 2.0
Comb 13

10/11/2022 shut system down @ 0625

10/11/2022 start system @ 10:35
System check
out PID Eff 0.0
Between carbons 0.0
Comb 24

10/11/2022 system check
PID Eff 0.0
Between carbons 4.6
Comb 20

Floors into carbon 5100 out carbon 2550 out carbon 2550

Gasoline Shop

11/14/02 System Check
PDI Eff 3.0
Between carbons 4.6
Comb 16

11/14/02 System Check
PDI Eff 1.2
Between carbons 7.9
Comb 16

11/14/02 System Check
PDI Eff 3.8
Between carbons 7.9
Comb 16

11/14/02 System Check
PDI Eff 1.2
Between carbons 6.6
Comb 16

11/14/02 System Check
PDI Eff 2.0
Between carbons 3.1
Comb 16

11/14/02 System check + samples
PDI Eff 0.0
Between carbons 0.0
Comb 2.5

11/14/02 System Check
PDI Eff 0.0
Between carbons 1.6
Comb 16

11/14/02 Shut system down @ 1500
11/14/02 Start system @ 1500

11/14/02 System check
PDI Eff 0.0
Between carbons 3.5
Comb 14

11/14/02 System check
PDI Eff 1.0
Between carbons 8.8
Comb 16

11/14/02 System check
PDI Eff 2.1
Between carbons 2.2
Comb 11

11/14/02 System check
PDI Eff 0.0
Between carbons 1.1
Comb 16

11/14/02 System check
PDI Eff 1.3
Between carbons 2.5
Comb 16

Transfer Pit Manways

10/10/22 System start
1500 PID eff 0.0
Between Carbons 0.0
Comb 784

10/10/22 System check + sample
1500 PID eff 0.0
Between Carbons 0.0
Comb 654

10/10/22 System check
1500 PID eff 0.0
Between Carbons 0.0
Comb 554

10/10/22 System check
1500 PID eff 0.3
Between Carbons 2.5
Comb 554

10/10/22 System check
1500 PID eff 0.0
Between Carbons 0.0
Comb 304

10/10/22 System check
1500 PID eff 0.0
Between Carbons 0.0
Comb 280

10/10/22 System start system down @ 06:20
10/10/22 start system @ 10:50

10/10/22 System check
PID eff 0.0
Between Carbons 0.0
Comb 20

10/10/22 System check
PID eff 0.0
Between Carbons 0.0
Comb 20

10/10/22 System check
PID eff 0.0
Between Carbons 0.0
Comb 32

Flows into blower 6200 octane and 20C.
10/10/22 System check + samples
PID eff 0.0
Between Carbon units 0.0
Comb 32

10/10/22 System check
PID eff 0.0
Between Carbon units 0.0
Comb 32

Transfer Pt Manways

10/27/2022 System check

1500 PID Eff 1.2

Between Carbons 00

Comb 35

11/1/22 System check

PID Eff 0.5

Between Carbons 00

Comb 15

11/1/22 System check

PID Eff 1.9

Between Carbons 23

Comb 15

11/1/22 checked box to go to write down

PID Eff 4.5

Between Carbons 68

Comb 14

11/1/22 3 shot down needed ext. cord

11/1/22 @ 000 started system

11/1/22 System check

PID Eff 0.5

Between Carbons 00

Comb 15

11/1/22 System check

PID Eff 2.0

Between Carbons 00

Comb 16

11/2/22 ~~shot~~ shut down @ 1500
11/2/22 started system @ 1500

11/1/22 System check

PID Eff 1.0

Between Carbons 1.6

11/1/22 System check

PID Eff 1.2

Between Carbons 3.6

11/1/22 System check

PID Eff 0.5

Between Carbons 3.2

11/1/22 System check

PID Eff 1.1

Between Carbons 0.0

11/1/22 System check

PID Eff 2.0

Between Carbons 0.0

Comb 16

Transfer Pipe Drawings

1/2" After system check
P.D.E. & O.O.
Between carbons 101
Comb 11

1/2" After system check
P.D.E. & O.O.
Between carbons 101
Comb 11

1/2" After system check
P.D.E. & O.O.
Between carbons 101
Comb 11

1/2" After system check
P.D.E. & O.O.
Between carbons 101
Comb 11

1/2" After system check
P.D.E. & O.O.
Between carbons 101
Comb 11

Inline Nitit Chamber

10/10/2018 System check
PID Eff 3.4
Between car tops 10
Comb 215

* Flows Out carbons 2100 Into carbons 4280
VE tank 4007 m

10/10/2018 System check
PID Eff 3.8
Between carbons 6.8
Comb 210+

10/10/2018 System check
PID Eff 4.7
Between carbons 10.1
Comb 215+

10/10/2018 System check
PID Eff 4.8
Between carbons 13.1
Comb 317

10/10/2018 System check
PID Eff 0.0
Between carbons 18.2
Comb 325

10/10/2018 System check
PID Eff 3.5
Between carbons 25.2
Comb 326

10/10/2018 System check
PID Eff 3.4
Between carbons 12.2
Comb 225

10/10/2018 System check
PID Eff 0.0
Between carbons 4.3
Comb 200+

10/10/2018 System check
PID Eff 3.6
Between carbons 3.2
Comb 24.7

10/10/2018 System check
PID Eff 0.0
Between carbons 4.7
Comb 27.5

10/10/2018 System check
PID Eff 0.0
Between carbons 4.3
Comb 23.5

10/10/2018 System check
PID Eff 0.0
Between carbons 1.0
Comb 100

* Flows Into carbons 4250
VE tank 300-500
10/10/2018 Det Carbon 2780

In line Grit Chamber

10/18/12 System Check + Samples
Between carbons 35 mmid
Comb 28/2

10/18/12 Shut System Off Breakthrough
H2O Between carbon 25 ppm

10/18/12 Start system with carbon units
H2O ~~off~~ inline TC
VE 6,32 running

10/18/12 System Check
H2O off

Between carbon 101
Comb 26

10/18/12 System Check
H2O off

Between carbons 31
Comb 630

10/18/12 System Check
H2O off

Between carbon 24
Comb 101

10/18/12 System Check
H2O off

Between carbons 6,7
Comb 25

Flow not carbon 28/20

11/02/12 System Check
Between carbons 30.8
Comb 110

11/02/12 System Check
H2O off
Between carbons 10.1
Comb 141

11/02/12 System Check
H2O off
Between carbons 1.6
Comb 127

11/02/12 System Check
H2O off
Between carbons 1.28
Comb 128

11/02/12 Shut system down @ 1500
H2O started system @ 1500

11/02/12 Shut system down @ 1600
Not working right

APPENDIX C
SVE WELL LOGS

ENVIROCON WELL LOG

Page 1 of 1

Well: VE-39

Project: LRY Owner: BN

Location: WORP Project No: 140101 Diameter: 6"

Date Drilled: 11/20/92 Total Depth: 19'-11" Initial WL:

Surface Elev: Elevation TOC: Slot Size: 040

Screen Dia: 4" Length: 10' Type: PVC

Casing Dia: 4" Length: 10'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: STEVE SASSE

SKETCH MAP

DEPTH (ft)	WELL CONST.	SPT (blows/ft)	PID READING	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (Color, Texture, Structures)
5	BENT CHIPS					
10	GRAVEL					
15						
20	TD = 19.9'		HS= 1.5	140101-S0-406 @10'		0-20' DAMP SANDY GRAVEL
25			HS= 2.8	140101-S0-407 @20'		
30						
35						
40						
45						

ENVIROCON WELL LOG

Page 1 of 1

Well: VE-40

Project: LRY Owner: BN

Location: Elec.Shop Project No: 140101 Diameter: 6"

Date Drilled: 11/20/92 Total Depth: 19'-9" Initial WL:

Surface Elev: Elevation TOC: Slot Size: 040

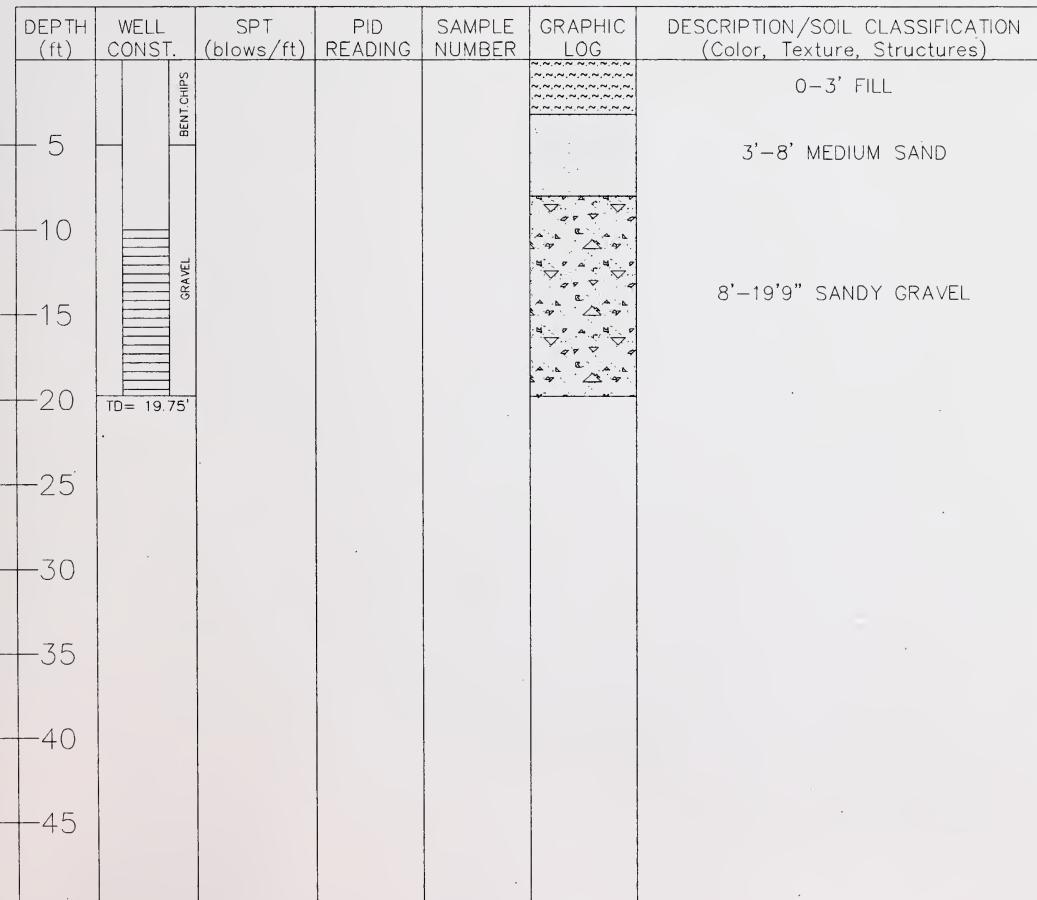
Screen Dia: 4" Length: 10' Type: PVC

Casing Dia: 4" Length: 10'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: STEVE SASSE

SKETCH MAP



ENVIROCON WELL LOG

Page 1 of 1

Well: VE-41

Project: LRY Owner: BN

Location: TRAN. PIT Project No: 140101 Diameter: 6"

Date Drilled: 11/20/92 Total Depth: 17' Initial WL:

Surface Elev: . Elevation: TOC Slot Size: 040

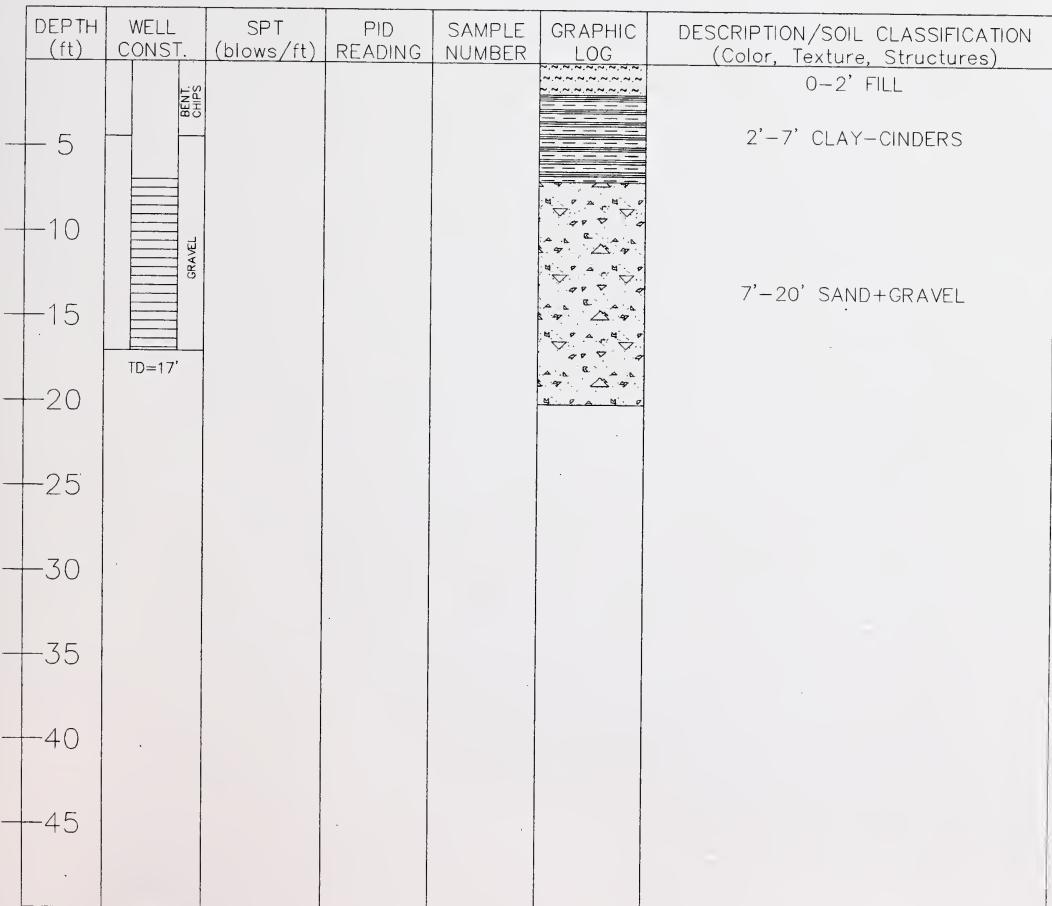
Screen Dia: 4" Length: 10' Type: PVC

Casing Dia: 4" Length: 10'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: JOHN MILLS

SKETCH MAP



ENVIROCON WELL LOG

Page 1 of 1

Well: VE-42

Project: LRY Owner: BN

Location: TRANS. PIT Project No: 140101 Diameter: 6"

Date Drilled: 11/20/92 Total Depth: 16' Initial WL:

Surface Elev: Elevation TOC: Slot Size: 040

Screen Dia: 4" Length: 10' Type: PVC

Casing Dia: 4" Length: 10'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: JOHN MILLS

SKETCH MAP

DEPTH (ft)	WELL CONST.	SPT (blows/ft)	PID READING	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (Color, Texture, Structures)
5	BENT CHIPS					0-16' SANDY GRAVEL
10	GRANULAR					
15						
20						
25						
30						
35						
40						
45						

ENVIROCON WELL LOG

Page 1 of 1

Well: VE-43

Project: LRY Owner: BN

Location:TRANS. PIT Project No: 140101 Diameter:

Date Drilled: 11/20/92 Total Depth: 16'-3" Initial WL:

Surface Elev: Elevation TOC: Slot Size: 040

Screen Dia: 4" Length: Type: PVC

Casing Dia: 4" Length: 10'

Drilling Co: PC EXPL. Drilling Method:

Driller: CLAYTON Logged By: JOH

SHIELDS

SKETCH MAP

DEPTH (ft)	WELL CONST.	SPT (blows/ft)	PID READING	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (Color, Texture, Structures)
5						0-16' SANDY GRAVEL
10						
15						
20						
25						
30						
35						
40						
45						

ENVIROCON WELL LOG

Page 1 of 1

Well: VE-44

Project: LRY

Owner: BN

Location: MRL Shop

Project No: 140101

Diameter: 6"

Date Drilled: 12/9/92

Total Depth: 19'

Initial WL:

Surface Elev:

Elevation TOC:

Slot Size: .040

Screen Dia: 4"

Length: 15'

Type: PVC

Casing Dia: 4"

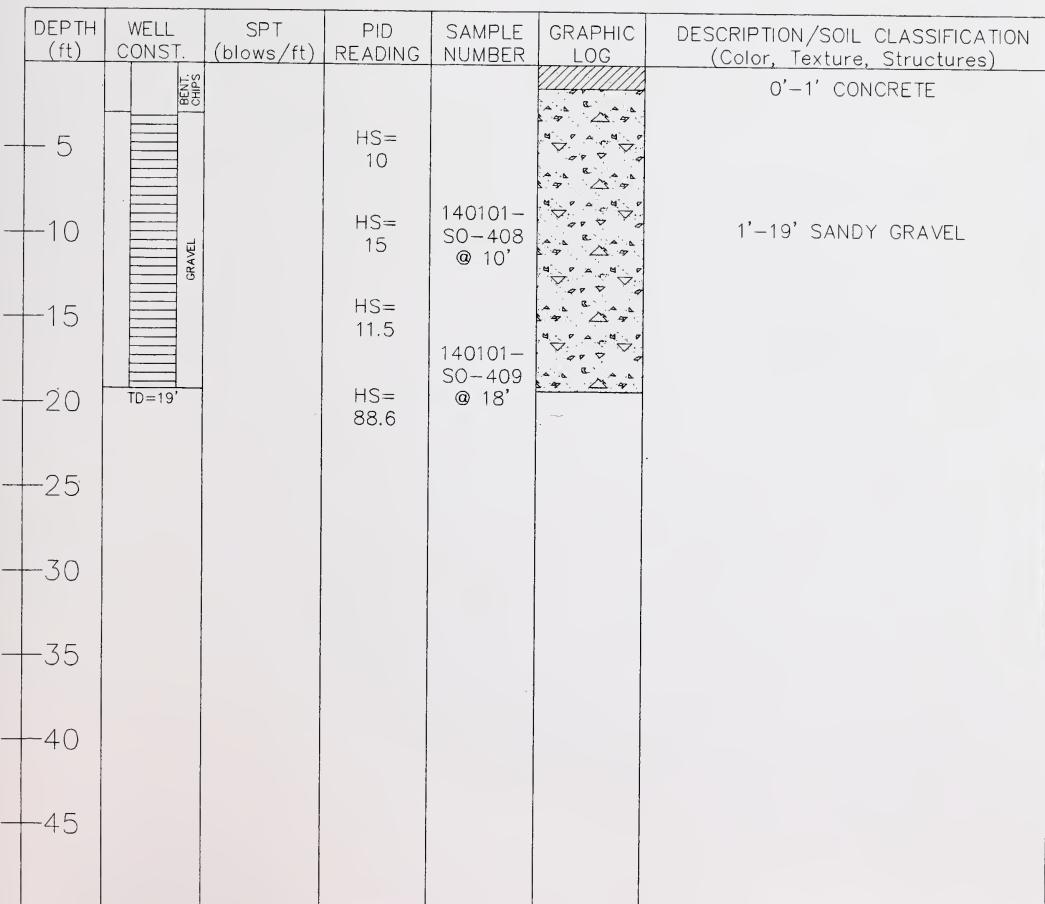
Length: 4'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS

Logged By: MIKE KROTT

SKETCH MAP



ENVIROCON WELL LOG

Page 1 of 1

Well: VE-45

Project: LRY Owner: BN

Location: MRL Shop Project No: 140101 Diameter: 6"

Date Drilled: 12/9/92 Total Depth: 15' Initial WL:

Surface Elev: Elevation TOC: Slot Size:

Screen Dia: Length: Type:

Casing Dia: Length:

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: MIKE KROTT

SKETCH MAP

DEPTH (ft)	WELL CONST.	SPT (blows/ft)	PID READING	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (Color, Texture, Structures)
5			HS= 28.5			0'-1' CONCRETE
10			HS= 14	140101- SO-410 @ 10'		1'-15' SANDY GRAVEL
15						LOST WELL AT 15' NO COMPLETION
20						
25						
30						
35						
40						
45						

ENVIROCON WELL LOG

Page 1 of 1

Well: VE-46

Project: LRY Owner: BN

Location: MRL Shop Project No: 140101 Diameter: 6"

Date Drilled: 12/9/92 Total Depth: 19.5' Initial WL:

Surface Elev: Elevation TOC: Slot Size: .040

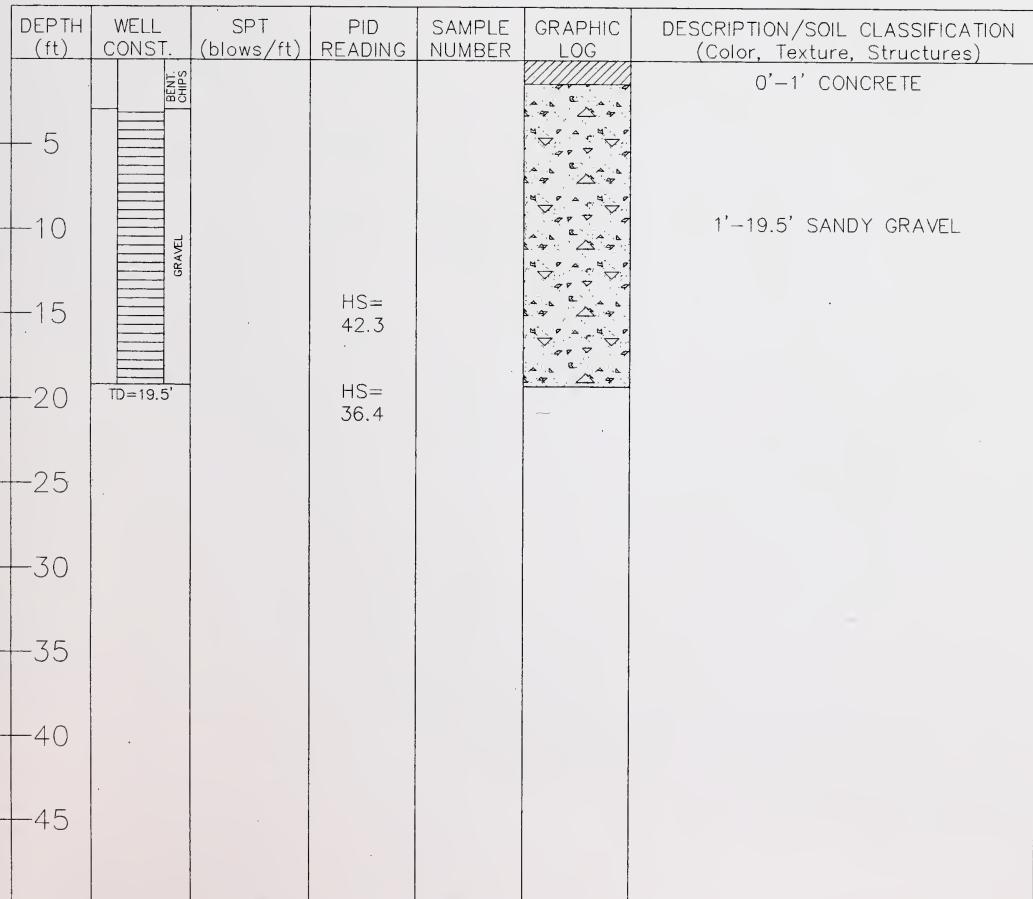
Screen Dia: 4" Length: 15' Type: PVC

Casing Dia: 4" Length: 4'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: MIKE KROTT

SKETCH MAP



ENVIROCON WELL LOG

Page 1 of 1

Well: VE-47

Project: LRY Owner: BN

Location: MRL Shop Project No: 140101 Diameter: 6"

Date Drilled: 12/9/92 Total Depth: 18.4' Initial WL:

Surface Elev: Elevation TOC: Slot Size: .040

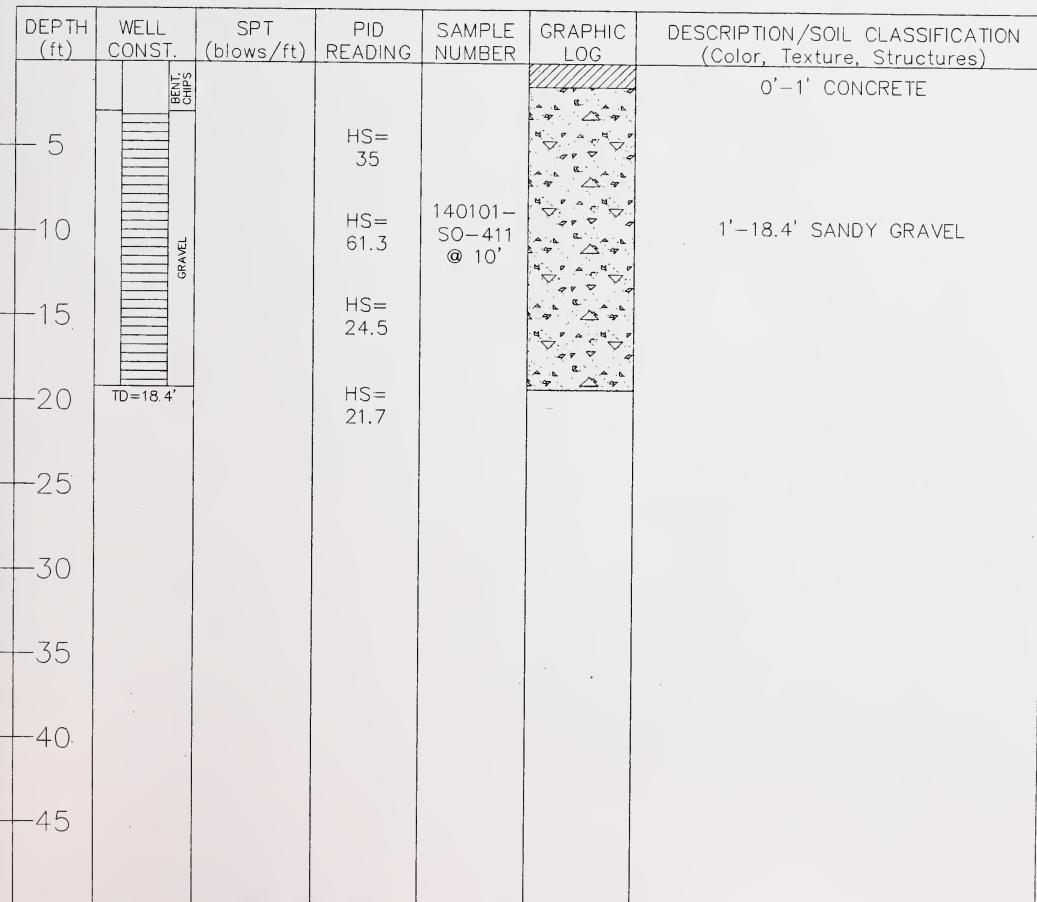
Screen Dia: 4" Length: 14.4' Type: PVC

Casing Dia: 4" Length: 4'

Drilling Co: PC EXPL. Drilling Method: AIR ROTARY

Driller: CLAYTON SHIELDS Logged By: MIKE KROTT

SKETCH MAP



APPENDIX D
SOIL SAMPLE RESULTS

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51595
DATE: 12/22/92 da
REVISED: 12/29/92 ag

SOIL ANALYSIS

140101-SO-411, VE-47, 10'
Sampled 12/09/92 @ 2000
Submitted 12/16/92
Analyzed 12/16/92

RECEIVED
12/22/92
314
ENVIRONMENTAL
LIVINGSTON, MT
Envirocon, Inc.

Constituentug/kg

Purgeable Halocarbons(EPA Method 8260)

Bromodichloromethane	< 200
Bromoform	< 200
Bromomethane	< 200
Carbon tetrachloride	< 200
Chlorobenzene	360
Chloroethane	< 200
2-Chloroethylvinyl ether	< 200
2-Chlorotoluene	1800
Chloroform	< 200
Chloromethane	< 200
Dibromochloromethane	< 200
1,2-Dichlorobenzene	1000
1,3-Dichlorobenzene	< 200
1,4-Dichlorobenzene	560
1,1-Dichloroethane	< 200
1,2-Dichloroethane	< 200
1,1-Dichloroethene	< 200
cis-1,2-Dichloroethene	< 200
trans-1,2-Dichloroethene	< 200
1,2-Dichloropropane	< 200
cis-1,3-Dichloropropene	< 200
trans-1,3-Dichloropropene	< 200
Methylene chloride	< 200
1,1,2,2-Tetrachloroethane	< 200
Tetrachloroethene	< 200
1,1,1-Trichloroethane	< 200
1,1,2-Trichloroethane	< 200
Trichloroethene	< 200
Trichlorofluoromethane	< 200
Vinyl chloride	< 200
Dichlorodifluoromethane	< 200

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51594
DATE: 12/22/92 da

SOIL ANALYSIS

Livingston/BN
140101-SO-410, VE-45, 10'
Sampled 12/09/92 @ 1630
Submitted 12/16/92
Analyzed 12/17/92

Envirocon Inc.
Livingston, MT

<u>Constituent</u>	<u>ug/kg</u>
Purgeable Halocarbons(EPA Method 8260)	
Bromodichloromethane	<5.0
Bromoform	<5.0
Bromomethane	<5.0
Carbon tetrachloride	<5.0
Chlorobenzene	<5.0
Chloroethane	<5.0
2-Chloroethylvinyl ether	<5.0
2-Chlorotoluene	<5.0
Chloroform	<5.0
Chloromethane	<5.0
Dibromochloromethane	<5.0
1,2-Dichlorobenzene	<5.0
1,3-Dichlorobenzene	<5.0
1,4-Dichlorobenzene	<5.0
1,1-Dichloroethane	<5.0
1,2-Dichloroethane	<5.0
1,1-Dichloroethene	<5.0
cis-1,2-Dichloroethene	<5.0
trans-1,2-Dichloroethene	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<5.0
trans-1,3-Dichloropropene	<5.0
Methylene chloride	<5.0
1,1,2,2-Tetrachloroethane	<5.0
Tetrachloroethene	<5.0
1,1,1-Trichloroethane	<5.0
1,1,2-Trichloroethane	<5.0
Trichloroethene	<5.0
Trichlorofluoromethane	<5.0
Vinyl chloride	<5.0
Dichlorodifluoromethane	<5.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51593
DATE: 12/22/92 da

SOIL ANALYSIS

Livingston/BN
140101-SO-409, VE-44, 18'
Sampled 12/09/92 @ 1530
Submitted 12/16/92
Analyzed 12/16/92

<u>Constituent</u>	<u>µg/kg</u>
Purgeable Halocarbons(EPA Method 8260)	
Bromodichloromethane	< 200
Bromoform	< 200
Bromomethane	< 200
Carbon tetrachloride	< 200
Chlorobenzene	< 200
Chloroethane	< 200
2-Chloroethylvinyl ether	< 200
2-Chlorotoluene	< 200
Chloroform	< 200
Chloromethane	< 200
Dibromochloromethane	< 200
1,2-Dichlorobenzene	< 200
1,3-Dichlorobenzene	< 200
1,4-Dichlorobenzene	< 200
1,1-Dichloroethane	< 200
1,2-Dichloroethane	< 200
1,1-Dichloroethene	< 200
cis-1,2-Dichloroethene	< 200
trans-1,2-Dichloroethene	< 200
1,2-Dichloropropane	< 200
cis-1,3-Dichloropropene	< 200
trans-1,3-Dichloropropene	< 200
Methylene chloride	< 200
1,1,2,2-Tetrachloroethane	< 200
Tetrachloroethene	< 200
1,1,1-Trichloroethane	< 200
1,1,2-Trichloroethane	< 200
Trichloroethene	< 200
Trichlorofluoromethane	< 200
Vinyl chloride	< 200
Dichlorodifluoromethane	< 200

NOTE: Practical quantitation limit reflects a use of the purge and trap high concentration extraction method. The extraction method was used due to non-target compound sample matrix interference. This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51592
DATE: 12/22/92 da

SOIL ANALYSIS

Livingston/BN
140101-SO-408, VE-44, 10'
Sampled 12/09/92 @ 1500
Submitted 12/16/92
Analyzed 12/17/92

PRINTED
12/22/92
ENVIRONMENTAL
LIVINGSTON, MT.

<u>Constituent</u>	<u>µg/kg</u>
Purgeable Halocarbons(EPA Method 8260)	
Bromodichloromethane	<5.0
Bromoform	<5.0
Bromomethane	<5.0
Carbon tetrachloride	<5.0
Chlorobenzene	<5.0
Chloroethane	<5.0
2-Chloroethylvinyl ether	<5.0
2-Chlorotoluene	<5.0
Chloroform	<5.0
Chloromethane	<5.0
Dibromochloromethane	<5.0
1,2-Dichlorobenzene	<5.0
1,3-Dichlorobenzene	<5.0
1,4-Dichlorobenzene	<5.0
1,1-Dichloroethane	<5.0
1,2-Dichloroethane	<5.0
1,1-Dichloroethene	<5.0
cis-1,2-Dichloroethene	<5.0
trans-1,2-Dichloroethene	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<5.0
trans-1,3-Dichloropropene	<5.0
Methylene chloride	<5.0
1,1,2,2-Tetrachloroethane	<5.0
Tetrachloroethene	<5.0
1,1,1-Trichloroethane	<5.0
1,1,2-Trichloroethane	<5.0
Trichloroethene	<5.0
Trichlorofluoromethane	<5.0
Vinyl chloride	<5.0
Dichlorodifluoromethane	<5.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
LABORATORY REPORT

10/18

FAX (406) 252-6069 • 1-800-735-4489

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047LAB NO: 92-49542
DATE: 12/17/92 agSOIL ANALYSISLivingston/BN, 140101-SO-407
Sampled 11/20/92
Submitted 11/24/92
Analyzed 12/02/92WWRP
12-39 @ 20

CONSTITUENT

ug/g

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	<0.20
Bromoform	<0.20
Bromomethane	<0.20
Carbon tetrachloride	<0.20
Chlorobenzene	<0.20
Chloroethane	<0.20
2-Chloroethylvinyl ether	<0.20
2-Chlorotoluene	<0.20
Chloroform	<0.20
Chloromethane	<0.20
Dibromochloromethane	<0.20
1,2-Dichlorobenzene	<0.20
1,3-Dichlorobenzene	<0.20
1,4-Dichlorobenzene	<0.20
1,1-Dichloroethane	<0.20
1,2-Dichloroethane	<0.20
1,1-Dichloroethene	<0.20
cis-1,2-Dichloroethene	<0.20
trans-1,2-Dichloroethene	<0.20
1,2-Dichloropropane	<0.20
cis-1,3-Dichloropropene	<0.20
trans-1,3-Dichloropropene	<0.20
Methylene chloride	<0.20
1,1,2,2-Tetrachloroethane	<0.20
Tetrachloroethene	1.5
1,1,1-Trichloroethane	<0.20
1,1,2-Trichloroethane	<0.20
Trichloroethene	<0.20
Trichlorofluoromethane	<0.20
Vinyl chloride	<0.20
Dichlorodifluoromethane	<0.20

This analysis is equivalent to EPA Methods 601/8010.

REMARKS: The samples were analyzed using both the high concentration extraction method and the direct insertion method. The levels of tetrachloroethene detected with these two methods were not consistent in that the levels with the high concentration extraction method were much higher than those with the direct insertion method. Due to this, the values obtained using the high concentration extraction method are reported.

LABORATORY REPORTRECEIVED
DEC 1 1992
ENVIRONMENTAL ANALYTICAL SERVICES, INC.
11/20/92TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047LAB NO: 92-49541
DATE: 12/17/92 ag**SOIL ANALYSIS**Livingston/BN, 140101-SO-406
Sampled 11/20/92 @ 1359
Submitted 11/24/92
Analyzed 12/02/92WORK
V E 39 @ 10'**CONSTITUENT**µg/g**Purgeable Halocarbons (EPA Method 8260)**

Bromodichloromethane	< 0.20
Bromoform	< 0.20
Bromomethane	< 0.20
Carbon tetrachloride	< 0.20
Chlorobenzene	< 0.20
Chloroethane	< 0.20
2-Chloroethylvinyl ether	< 0.20
2-Chlorotoluene	< 0.20
Chloroform	< 0.20
Chloromethane	< 0.20
Dibromochloromethane	< 0.20
1,2-Dichlorobenzene	< 0.20
1,3-Dichlorobenzene	< 0.20
1,4-Dichlorobenzene	< 0.20
1,1-Dichloroethane	< 0.20
1,2-Dichloroethane	< 0.20
1,1-Dichloroethene	< 0.20
cis-1,2-Dichloroethene	< 0.20
trans-1,2-Dichloroethene	< 0.20
1,2-Dichloropropane	< 0.20
cis-1,3-Dichloropropene	< 0.20
trans-1,3-Dichloropropene	< 0.20
Methylene chloride	< 0.20
1,1,2,2-Tetrachloroethane	< 0.20
Tetrachloroethene	0.22
1,1,1-Trichloroethane	< 0.20
1,1,2-Trichloroethane	< 0.20
Trichloroethene	< 0.20
Trichlorofluoromethane	< 0.20
Vinyl chloride	< 0.20
Dichlorodifluoromethane	< 0.20

This analysis is equivalent to EPA Methods 601/8010.

REMARKS: The samples were analyzed using both the high concentration extraction method and the direct insertion method. The levels of tetrachloroethene detected with these two methods were not consistent in that the levels with the high concentration extraction method were much higher than those with the direct insertion method. Due to this, the values obtained using the high concentration extraction method are reported.

LABORATORY REPORT

M 12/19

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047LAB NO: Blank
DATE: 12/17/92 ag**RECEIVED**

1292

Envirocon, Inc.
Livingston, Mt.**SOIL ANALYSIS**Method Blank
Analyzed 12/01/92**CONSTITUENT**µg/g

Purgeable Halocarbons (EPA Method 8260)

Bromodichloromethane	.....	<0.20
Bromoform	.....	<0.20
Bromomethane	.....	<0.20
Carbon tetrachloride	.....	<0.20
Chlorobenzene	.....	<0.20
Chloroethane	.....	<0.20
2-Chloroethylvinyl ether	.....	<0.20
2-Chlorotoluene	.....	<0.20
Chloroform	.....	<0.20
Chloromethane	.....	<0.20
Dibromochloromethane	.....	<0.20
1,2-Dichlorobenzene	.....	<0.20
1,3-Dichlorobenzene	.....	<0.20
1,4-Dichlorobenzene	.....	<0.20
1,1-Dichloroethane	.....	<0.20
1,2-Dichloroethane	.....	<0.20
1,1-Dichloroethene	.....	<0.20
cis-1,2-Dichloroethene	.....	<0.20
trans-1,2-Dichloroethene	.....	<0.20
1,2-Dichloropropane	.....	<0.20
cis-1,3-Dichloropropene	.....	<0.20
trans-1,3-Dichloropropene	.....	<0.20
Methylene chloride	.....	<0.20
1,1,2,2-Tetrachloroethane	.....	<0.20
Tetrachloroethene	.....	<0.20
1,1,1-Trichloroethane	.....	<0.20
1,1,2-Trichloroethane	.....	<0.20
Trichloroethene	.....	<0.20
Trichlorofluoromethane	.....	<0.20
Vinyl chloride	.....	<0.20
Dichlorodifluoromethane	.....	<0.20

This analysis is equivalent to EPA Methods 601/8010.

*RECEIVED**DEC 15 1992**ENVIROCON, Inc.
Livingston, MT***LABORATORY REPORT**

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49641**DATE:** 12/17/92 *at Envirocon, Inc.
Livingston, MT***SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY**

<u>Compound</u>	Spike Added, ug/g	Sample Concentration ug/g	MS Concentration ug/g	MS % Rec. #	QC. Limits Rec., %
1,1-Dichloroethene	1.0	<0.20	0.96	96	60-140
Trichloroethene	1.0	<0.20	0.94	94	60-140
Benzene	1.0	<0.20	0.92	92	60-140
Toluene	1.0	<0.20	0.88	88	60-140
Chlorobenzene	1.0	<0.20	0.94	94	60-140

<u>Compound</u>	Spike Added ug/g	MSD Concentration ug/g	MSD % Rec. #	% RPD #	QC Limits, RPD, % Rec., %
1,1-Dichloroethene	1.0	0.82	82	16	22 60-140
Trichloroethene	1.0	0.90	90	4.3	24 60-140
Benzene	1.0	0.90	90	2.2	21 60-140
Toluene	1.0	0.86	86	2.3	21 60-140
Chlorobenzene	1.0	0.94	94	0	21 60-140

Column to be used to flag recovery and RPD values with an asterisk.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-49541-42
DATE: 12/17/92 ag

RECEIVED
12/18/92

Envirocon, Inc.
Livingston, MT

SOIL VOLATILE SURROGATE RECOVERY

2.0 $\mu\text{g/g}$ Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #
92-49541	91	95	91
92-49542	95	95	89
Blank	94	98	89

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery

75-120
75-120
70-120

#Column to be used to flag recovery values with an asterisk.

LABORATORY REPORT

M-2128

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 12/22/92 da

RECEIVED
DEC 24 1992
ENR

SOIL ANALYSIS

Method Blank I
Analyzed 12/17/92

<u>Constituent</u>	<u>ug/kg</u>
Purgeable Halocarbons(EPA Method 8260)	
Bromodichloromethane	< 5.0
Bromoform	< 5.0
Bromomethane	< 5.0
Carbon tetrachloride	< 5.0
Chlorobenzene	< 5.0
Chloroethane	< 5.0
2-Chloroethylvinyl ether	< 5.0
2-Chlorotoluene	< 5.0
Chloroform	< 5.0
Chloromethane	< 5.0
Dibromochloromethane	< 5.0
1,2-Dichlorobenzene	< 5.0
1,3-Dichlorobenzene	< 5.0
1,4-Dichlorobenzene	< 5.0
1,1-Dichloroethane	< 5.0
1,2-Dichloroethane	< 5.0
1,1-Dichloroethene	< 5.0
cis-1,2-Dichloroethene	< 5.0
trans-1,2-Dichloroethene	< 5.0
1,2-Dichloropropane	< 5.0
cis-1,3-Dichloropropene	< 5.0
trans-1,3-Dichloropropene	< 5.0
Methylene chloride	< 5.0
1,1,2,2-Tetrachloroethane	< 5.0
Tetrachloroethene	< 5.0
1,1,1-Trichloroethane	< 5.0
1,1,2-Trichloroethane	< 5.0
Trichloroethene	< 5.0
Trichlorofluoromethane	< 5.0
Vinyl chloride	< 5.0
Dichlorodifluoromethane	< 5.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 12/22/92 da

SOIL ANALYSIS

Method Blank II
Analyzed 12/16/92

RECEIVED
Dec 22 1992
Envirocon, Inc.
L. [Signature]

<u>Constituent</u>	<u>µg/kg</u>
Purgeable Halocarbons(EPA Method 8260)	
Bromodichloromethane	< 200
Bromoform	< 200
Bromomethane	< 200
Carbon tetrachloride	< 200
Chlorobenzene	< 200
Chloroethane	< 200
2-Chloroethylvinyl ether	< 200
2-Chlorotoluene	< 200
Chloroform	< 200
Chloromethane	< 200
Dibromochloromethane	< 200
1,2-Dichlorobenzene	< 200
1,3-Dichlorobenzene	< 200
1,4-Dichlorobenzene	< 200
1,1-Dichloroethane	< 200
1,2-Dichloroethane	< 200
1,1-Dichloroethene	< 200
cis-1,2-Dichloroethene	< 200
trans-1,2-Dichloroethene	< 200
1,2-Dichloropropane	< 200
cis-1,3-Dichloropropene	< 200
trans-1,3-Dichloropropene	< 200
Methylene chloride	< 200
1,1,2,2-Tetrachloroethane	< 200
Tetrachloroethene	< 200
1,1,1-Trichloroethane	< 200
1,1,2-Trichloroethane	< 200
Trichloroethene	< 200
Trichlorofluoromethane	< 200
Vinyl chloride	< 200
Dichlorodifluoromethane	< 200

NOTE: This analysis is equivalent to EPA Methods 601/8010.

**ENERGY LABORATORIES, INC.**

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51592-95
DATE: 12/22/92 da

RECEIVED

DECEMBER 22

ENVIROCON, Inc.
Livingston, MT

SOIL VOLATILE SURROGATE RECOVERY

50 $\mu\text{g}/\text{kg}$ Surrogate Standard Spike

<u>SAMPLE NO.</u>	<u>-----% recovery-----</u>		
	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #
92-51592	103	103	77
92-51593*	97	97	88
92-51594	103	107	78
92-51595*	99	110	88
Method Blank I	104	105	84
Method Blank II*	97	100	91

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery

75-120
75-120
70-120

#Column to be used to flag recovery values with an asterisk.

*2,000 $\mu\text{g}/\text{kg}$ Surrogate Standard Spike.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

M 12/18/92

RECEIVED

DEC 18 1992

December 17, 1992

ENVIROCON, Inc.
Livingston, Mt.

John Mills
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On November 24, 1992 these samples, represented by our laboratory numbers 92-49541 to 92-49542, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:

A handwritten signature in black ink that reads "Joe Standard". The signature is written in a cursive style with a long, sweeping line for the first name and a more compact, stylized line for the last name.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

M 12/38
RECEIVED
DEC 28 1992
ENVIROCON, Inc.
Livingston, Mt.

December 22, 1992

John Mills
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On December 16, 1992 these samples, represented by our laboratory numbers 92-51592 to 92-51595, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:

A handwritten signature in black ink that reads "John Mills". The signature is fluid and cursive, with "John" on the top line and "Mills" on the bottom line.

APPENDIX D
AIR SAMPLE RESULTS

LABORATORY REPORT**RECEIVED**

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51142

DATE: 12/22/92 da

*Transferred
initial
walk out
VE-42***AIR ANALYSIS**

BN
140101-SG-250
Sampled 12/08/92
Submitted 12/11/92
Analyzed 12/15/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons	
Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	4.9
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	<2.5
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 92-51141
DATE: 12/22/92 da

Envirocon, Inc.
Livingston, Mt.

AIR ANALYSIS

BN
140101-SG-249
Sampled 12/08/92
Submitted 12/11/92
Analyzed 12/15/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons	
Bromodichloromethane	<2.5
Bromoform	<2.5
Bromomethane	<2.5
Carbon tetrachloride	<2.5
Chlorobenzene	<2.5
Chloroethane	<2.5
2-Chloroethylvinyl ether	<2.5
2-Chlorotoluene	<2.5
Chloroform	<2.5
Chloromethane	<2.5
Dibromochloromethane	<2.5
1,2-Dichlorobenzene	<2.5
1,3-Dichlorobenzene	<2.5
1,4-Dichlorobenzene	<2.5
1,1-Dichloroethane	<2.5
1,2-Dichloroethane	<2.5
1,1-Dichloroethene	<2.5
cis-1,2-Dichloroethene	<2.5
trans-1,2-Dichloroethene	<2.5
1,2-Dichloropropane	<2.5
cis-1,3-Dichloropropene	<2.5
trans-1,3-Dichloropropene	<2.5
Methylene chloride	<2.5
1,1,2,2-Tetrachloroethane	<2.5
Tetrachloroethene	19
1,1,1-Trichloroethane	<2.5
1,1,2-Trichloroethane	<2.5
Trichloroethene	3.8
Trichlorofluoromethane	<2.5
Vinyl chloride	<2.5
Dichlorodifluoromethane	<2.5
Total VOC Response	<30

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 12/22/92 da

RECEIVED
12/22/92

Envirocon, Inc.
Livingston, MT

AIR ANALYSIS

Method Blank
Analyzed 12/15/92

<u>Constituent</u>	<u>mg/m³</u>
Purgeable Halocarbons	
Bromodichloromethane	< 2.5
Bromoform	< 2.5
Bromomethane	< 2.5
Carbon tetrachloride	< 2.5
Chlorobenzene	< 2.5
Chloroethane	< 2.5
2-Chloroethylvinyl ether	< 2.5
2-Chlorotoluene	< 2.5
Chloroform	< 2.5
Chloromethane	< 2.5
Dibromochloromethane	< 2.5
1,2-Dichlorobenzene	< 2.5
1,3-Dichlorobenzene	< 2.5
1,4-Dichlorobenzene	< 2.5
1,1-Dichloroethane	< 2.5
1,2-Dichloroethane	< 2.5
1,1-Dichloroethene	< 2.5
cis-1,2-Dichloroethene	< 2.5
trans-1,2-Dichloroethene	< 2.5
1,2-Dichloropropane	< 2.5
cis-1,3-Dichloropropene	< 2.5
trans-1,3-Dichloropropene	< 2.5
Methylene chloride	< 2.5
1,1,2,2-Tetrachloroethane	< 2.5
Tetrachloroethene	< 2.5
1,1,1-Trichloroethane	< 2.5
1,1,2-Trichloroethane	< 2.5
Trichloroethene	< 2.5
Trichlorofluoromethane	< 2.5
Vinyl chloride	< 2.5
Dichlorodifluoromethane	< 2.5
Total VOC Response	< 30



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

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DEC 23 1992

ENVIRONMENTAL
LABORATORIES

December 22, 1992

John Mills
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On December 11, 1992 these samples, represented by our laboratory numbers 92-51141 to 92-51142, were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by: John Stanbush

